

# **2017 Annual Monitoring Report**

**AS/SVE System  
Former Fuel Depot Area – Site 7  
Naval Weapons Industrial Reserve Plant  
Calverton, New York**

**Contract No. N40085-10-D-9409  
Contract Task Order No. 0003**

January 2018

Prepared for:



Naval Facilities Engineering Command Mid-Atlantic  
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Norfolk, VA 23511

Prepared by:



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## Acronyms and Abbreviations

AS	air sparge
BTEX	benzene, toluene, ethylbenzene, and xylenes
COC	constituent of concern
DO	dissolved oxygen
DOD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
FB	field blank
H&S	H&S Environmental, Inc.
KGS	KOMAN Government Solutions, LLC
LNAPL	Light Non-Aqueous Phase Liquid
MS/MSD	matrix spike/matrix spike duplicate
NAVFAC	Naval Facilities Engineering Command Mid-Atlantic
Navy	U.S. Department of the Navy
NELAC	National Environmental Accreditation Conference
NWIRP	Naval Weapons Industrial Reserve Plant
O&M	Operations and Maintenance
ORP	oxidation reduction potential
PID	photoionization device
PCG	Proposed Closeout Goal
QA/QC	quality assurance / quality control
ROD	Record of Decision
RPD	relative percent difference
SC	specific conductance
SVE	soil vapor extraction
SVOC	semivolatile organic compound
TB	trip blank
TtEC	Tetra Tech EC, Inc.
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VFD	variable frequency drive
VOC	volatile organic compound

## 1.0 INTRODUCTION

KOMAN Government Solutions, LLC (KGS) has prepared this Annual Monitoring Report for the former Fuel Depot Area (Site 7) Air Sparge / Soil Vapor Extraction (AS/SVE) System at the Naval Weapons Industrial Reserve Plant (NWIRP) in Calverton, New York (NWIRP Calverton). This report has been prepared for the U.S. Department of the Navy (Navy), Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic, under Contract No. N40085-10-D-9409, Contract Task Order No. 0003. This 2017 Annual Monitoring Report summarizes the activities that occurred during the Spring and Fall of 2017. Data was collected, and operational activities were performed by KGS in accordance with the following documents:

- *Final Operations and Maintenance Manual for Soil Vapor Extraction / Air Sparging System* prepared by Tetra Tech EC, Inc. (TtEC) in 2006, hereafter referred to as the “O&M Manual.”
- *Performance and Shutdown Evaluation of the Air Sparge/Soil Vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York* prepared by Tetra Tech, Inc. (Tetra Tech) in 2013.

### 1.1 Background

Site 7 is located approximately 3,000 feet north of the south gate, near the geographic center of the former NWIRP Calverton, now the Calverton Enterprise Park (**Figure 1**). The principal features of the Site are a large concrete pad that was used for truck unloading and parking along the southern half of the Site and a gravel/soil area where a series of underground storage tanks (USTs) were located along the northern half of the Site. Prior to their removal in 1998, the USTs were used to store jet fuel. A pump house was located along the western edge of the Site. The pump house was used to load trucks that transferred the jet fuel to other areas in the former NWIRP Calverton. The current Site layout is depicted in **Figure 2**.

The 2003 Record of Decision (ROD) for Site 7 indicated a selected remedy of installation and operation of an AS/SVE system. The AS/SVE system was constructed in 2006 and included a series of air sparge and vacuum extraction wells connected by aboveground piping that was connected to the treatment system located in a building in the southeast corner of the Site. The purpose of the AS/SVE system was to remediate residual concentrations of constituents of concern (COCs) in groundwater (TtEC 2007). The AS/SVE system was operated seasonally through 2013, from April to December each year (since the system utilized above-ground piping that was not designed for below freezing operations).

In November 2013, Tetra Tech submitted an evaluation of the Site 7 AS/SVE system entitled, *Performance and Shutdown Evaluation of the Air Sparge / Soil Vapor Extraction System, Site 7 – Former Fuel depot, Naval Weapons Industrial Reserve Plant, Calverton, New York*. This document proposed an interim shutdown of the AS/SVE system in December 2013 to evaluate the overall effectiveness of the remedy. During the shutdown, soil and groundwater data would be collected to determine whether additional treatment at the Site is warranted. The system would remain off while data was collected and evaluated, and a final decision to permanently shut down the system would be made after data evaluation. In accordance with this plan, the system was shut down on 5 November 2013 (shut down occurred a month earlier than planned due to issues with the variable frequency drive (VFD) for Blower 1). The

AS/SVE system remained off-line until it was subsequently decommissioned by others in the latter half of 2015, as detailed under separate cover.

The purpose of this report is to summarize data collected in 2017 and evaluate all data collected during the post shut-down sampling rounds in accordance with the *Performance and Shutdown Evaluation* (Tetra Tech 2013).

## 2.0 MONITORING

### 2.1 Groundwater Quality Monitoring

Semiannual groundwater monitoring events were performed on 5-6 April and 10-12 October 2017. Results from both events are presented in this Annual Report. For each event, groundwater samples were collected from the following seven monitoring and SVE wells: MW16S, MW17S, SV2, SV4, SV11/MW40, SV13, and SV15. These wells were chosen based on historical groundwater contaminant concentrations above the 2003 ROD remediation goals or 2013 Proposed Closeout Goals (PCGs) at these locations (Tetra Tech 2013). In addition to the above-mentioned wells, groundwater samples were also collected from four sentry monitoring wells MW07S, MW07I, MW08S, and MW09S to confirm that no off-site contaminant migration was occurring. Monitoring and SVE well locations are shown on **Figure 2**.

#### 2.1.1 Groundwater Elevation Data / Groundwater Flow

Groundwater level measurements were collected from select SVE wells and monitoring wells in April and October 2017, prior to performing groundwater sampling activities. Groundwater elevations were calculated for those wells for which reference elevation data was available. Groundwater level measurements and associated elevation data for the April and October 2017 events are presented in **Tables 1A and 1B**, respectively. Groundwater elevations for the April and October 2017 events are also presented graphically on **Figures 3A and 3B** and were used to determine the direction of groundwater flow. As indicated on **Figures 3A and 3B**, the general direction of groundwater flow is from west to east across the Site. This is consistent with the groundwater flow directions determined during previous events.

#### 2.1.2 Groundwater Quality Results

Field parameters measured during well purging in April and October 2017, consisting of pH, specific conductance (SC), turbidity, temperature, oxidation-reduction potential (ORP) and dissolved oxygen (DO), are summarized in **Tables 2A and 2B**, respectively. Copies of the field logs and chain of custody documentation are presented in **Appendix A**.

Groundwater samples were submitted to a National Environmental Laboratory Accreditation Conference (NELAC) accredited, Department of Defense (DOD) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory: Analytical Laboratories Services, Inc. located in Rochester, NY.

Groundwater samples were analyzed for select volatile organic compounds (VOCs): benzene, toluene, ethylbenzene, xylenes (collectively BTEX), naphthalene, and 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113®) by U.S. Environmental Protection Agency (USEPA) Method 8260C. In addition, groundwater samples were also analyzed for one semivolatile organic compound (SVOC), 2-methylnaphthalene, by USEPA Method 8270D, and total lead by USEPA Method 6010C.

Validated analytical results for compounds detected during the April and October 2017 monitoring events are presented in **Tables 3A and 3B**, respectively. Results from both the April and October 2017 events were compared to the 2013 PCGs and concentrations of COCs are summarized as follows:

- Benzene was not detected at any monitoring location during either event.
- Ethylbenzene was detected above the 2013 PCG (5 µg/L) at five locations during the October 2017 event: MW16S (15 µg/L), MW17S (77 µg/L), SV2 (120 µg/L), SV4 (7.6 µg/L), and SV13 (12 µg/L). Ethylbenzene was previously detected above the PCG at four locations during the April 2017 event: MW16S (13 µg/L), MW17S (44 µg/L), SV2 (98 µg/L), and SV4 (6.1 µg/L).
- Toluene was not detected at any monitoring location during either event.
- Total xylenes were detected above the 2013 PCG (5 µg/L) at five locations during the October 2017 event: MW16S (9.2 J µg/L), MW17S (211 J µg/L), SV2 (785 µg/L), SV4 (76 µg/L), and SV13 (56 µg/L). Xylenes were previously detected above the PCG at four locations during the April 2017 event: MW17S (100 µg/L), SV2 (356 J µg/L), SV4 (46 µg/L), and SV13 (11 µg/L).
- Freon® 113 was not detected above the 2013 PCG (5 µg/L) at any monitoring location during either event.
- Naphthalene was not detected above the 2013 PCG (50 µg/L) during the October 2017 event. Naphthalene was detected above the PCG at one location during the April 2017 event, MW17S (67 µg/L).
- 2-Methyl-naphthalene was not detected above the 2013 PCG (50 µg/L) at any monitoring location during either event.
- Total lead was not detected above the 2013 PCG (15 µg/L) at any monitoring location during the October 2017 event, and was not detected at any monitoring location in April 2017.

Groundwater analytical results for the October 2017 sampling event are presented graphically as **Figure 4** (monitoring wells) and **Figure 5** (SVE wells). Post-shutdown analytical results from the December 2013 through October 2017 sampling events are also provided on these figures for comparison. Data validation reports and a validated analytical data summary for the April and October 2017 events are presented in **Appendix B**.

### 2.1.3 Quality Assurance/Quality Control Sampling

Field and laboratory Quality Assurance/ Quality Control (QA/QC) samples were collected during the April and October 2017 sampling events as required by the O&M Manual. These samples consisted of blind field duplicates, matrix spike/matrix spike duplicate (MS/MSD), equipment and field blanks (FB) collected at a rate of one per sampling event, and trip blanks (TB) submitted at a rate of one per sample cooler. No contaminants were detected in the equipment or trip blank samples collected during either sampling event, with exception of toluene which was detected at a low concentration of 0.30 µg/L in the Field Blank sample during the October 2017 event. However, none of the samples collected during the October 2017 had detection of Toluene which indicates that this low detection may be from laboratory contamination or from contamination introduced during sample collection, storage, and transport; otherwise quality control requirements were achieved.

For field duplicate samples, the precision between the original sample and its duplicate is evaluated by calculating the relative percent difference (RPD). RPDs for the April and October 2017 sampling events are presented in the data validation report in **Appendix B**. As indicated, RPDs for all analytes were



below the guideline of 50%, with exception of o-xylene which was reported at a 56.6 % RPD from the duplicate sample (0.68 J µg/L) over its parent sample MW16S (0.38 J µg/L). However, for the purpose of this report, only total xylene (o-xylene and m,p-xylene) is calculated and reported in the tables. The overall consistency between the samples and its duplicate verifies that proper sample collection methods were followed.

#### 2.1.4 Groundwater Concentration Trends

**Table 4** presents the groundwater analytical results for the seven selected monitoring and SVE wells from December 2013 (first sampling event after system shut-down) through October 2017, along with a comparison of these results to the 2013 PCGs. **Tables 5A and 5B** provide the analytical results since 2006 for all monitoring and SVE wells. **Table 5A** summarizes the data for the 12 monitoring wells and **Table 5B** summarizes the data for the 15 previously active SVE wells.

**Appendix C** presents concentration trends of the eight COCs (BTEX, Freon® 113, naphthalene, 2-methyl-naphthalene, and lead) analyzed for at each of the seven selected SVE and monitoring wells, from the first sampling event after system shut-down (December 2013), through the most recent round of groundwater sampling (October 2017). Concentration trends of total BTEX (combined) and naphthalene from March 2006 through October 2017 for each of the seven selected SVE and monitoring wells, as well as Freon® 113 for SV11, are presented in **Appendix D**. Concentration trends for the four sentry monitoring wells (MW07I, MW07S, MW08S, and MW09S) are not included, as no contaminants were detected at these locations.

Overall trends from 2006 to the present are provided for reference in **Appendix D**. However, for purposes of this evaluation, only data from the specified wells from December 2013 onward are considered (**Appendix C**).

##### MW16S

Concentrations of COCs in MW16S initially decreased after December 2013 but have generally remained stable since March 2014 with some variation. The concentrations of ethylbenzene (13 µg/L and 15 µg/L), and total xylenes (5.0 J µg/L and 9.2 J µg/L) in April and October 2017, were reported above their respective PCGs. Freon 113® was first detected in September 2014 at a concentration of 1.1 J µg/L and was detected at a maximum concentration of 5.2 µg/L above its PCG of 5 µg/L in December 2014. Thereafter, Freon 113® remained either undetected or at low estimated concentrations below its PCG. Concentrations of naphthalene (6.1 µg/L and 9 J µg/L) reported in April and October 2017 were below its PCG of 50 µg/L. Benzene, toluene, and 2-methylnaphtalene remained undetected during the April and October 2017 sampling events. Total lead concentrations decreased from an initial concentration of 41 µg/L above the PCG of 15 µg/L in December 2013 to non-detectable levels in March 2016 and a low concentration of 1.1 J µg/L in October 2016. The concentrations of total lead (2.2 J µg/L and undetected) were below the PRG during April and October 2017 sampling events.

##### MW17S

Concentrations of COCs in MW17S have generally remained stable or increased between December 2013 and October 2017, with variation over time. Ethylbenzene and total xylenes have steadily increased since



October 2016 with concentrations of 77 µg/L and 211 µg/L respectively during October 2017. This is the highest concentration reported to date for ethylbenzene, while total xylene reported the second highest concentration to date since first sampled in March 2006. Concentrations of 2-methyl-naphthalene have varied, though remain below its PCG. Total lead concentrations decreased to non-detectable levels from September 2015 until March 2016 then increased to an estimated value of 2.4 J µg/L in April of 2017 before becoming undetected again in October 2017. Freon 113<sup>®</sup> has been detected at levels below the respective PCG only three of the sampling events, at concentrations of 0.38 J µg/L in March 2015, 0.83 J µg/L in June 2015, and 2.0 J µg/L in September 2015. Concentrations of Freon 113<sup>®</sup> have remained undetected since December 2015. Well MW17S was not sampled during the October 2016 sampling event due to the presence of LNAPL in the well.

#### SV2

Concentrations of COCs in SV2 have generally remained stable or variable between December 2013 and October 2017. Concentrations of ethylbenzene (98 µg/L and 120 µg/L) and total xylenes (356 µg/L and 785 µg/L) observed in April and October 2017 respectively are above their respective PCGs, and greater than initial concentrations observed in December 2013 (98.9 µg/L and 645 J µg/L, respectively). Naphthalene was detected below its PCG at concentrations of 23 µg/L and 33 µg/L in April and October 2017 respectively. 2-methyl-naphthalene concentrations had increased from 20.2 µg/L in December 2013 to 52 µg/L in October 2016, also above the associated PCG; however, 2-methyl-naphthalene was detected below its respective PCG during the March 2016 sampling event with a concentration of 40 µg/L. Concentrations of 2-methyl-naphthalene (undetected and 21 µg/L) detected in April and October 2017 remain below its PCG of 50 µg/L. The concentrations of total lead 3.0 J µg/L and undetected) were below the PRG during April and October 2017 sampling events. Benzene, Freon 113<sup>®</sup>, and toluene were not detected during both April and October 2017 sampling events.

#### SV4

Concentrations of COCs in SV4 have generally remained stable or increased between December 2013 and October 2017. Total xylenes concentrations initially decreased in March 2014 (2.5 µg/L) and June 2014 (1.6 J µg/L) but have since increased to concentrations greater than those observed in December 2013 (5.0 µg/L), to a concentration of 83 µg/L in September 2015, above the PCG. Concentrations subsequently decreased somewhat in December 2015 (41 µg/L) and March 2016 (25 µg/L), but rebounded to a historic maximum concentration of 103 µg/L in October 2016. The current concentrations of total xylenes (46 µg/L and 76 µg/L) remained above the PCG in April and October 2017. Ethylbenzene concentrations have increased from an initial non-detectable concentration observed in December 2013 to a concentration of 12 µg/L in October 2016. Ethylbenzene has since decreased to 6.1 µg/L and 7.6 µg/L in April and October 2017; however, concentrations remain above its PCG. Freon 113<sup>®</sup> was detected at historic maximum (5.8 µg/L), and above its respective PCG, during the October 2016 sampling event. It is important to note that Freon 113<sup>®</sup> was previously detected at low concentrations ranging from undetectable to 2.6 J µg/L, below the PCG of 5 µg/L. Concentrations of Freon 113<sup>®</sup> have since returned to the normal range with concentrations of 0.84 J µg/L and 2.10 J µg/L during April and October 2017 sampling events. Benzene and toluene remained undetected since December 2013, while concentrations of naphthalene (19 µg/L and 16 J µg/L) remained below its PCG of 50 µg/L during the April and October 2017 sampling events.

### SV11

Concentrations of COCs in SV11 have generally decreased between December 2013 and October 2017, with some variation. The concentrations of Freon 113<sup>®</sup> during the 2017 sampling events were 4.2 J µg/L and 2.6 J µg/L for April and October respectively. Concentrations of Freon 113<sup>®</sup> observed since October 2016 have dropped below the PCG and have been significantly lower than the historic maximum of 137 µg/L observed in December 2013. Total xylenes concentrations generally decreased from 9.1 J µg/L in December 2013 to below the PCG in October 2017 (1.77 J µg/L). The total xylenes concentration observed in September 2015 (10.4 J µg/L) was above the PCG, but the concentration observed in subsequent sampling events, remain below the PCG. While COC concentrations continue to trend downward, there were no COCs detected above the PCGs during the April and October 2017 sampling events.

### SV13

Concentrations of COCs at SV13 have varied between December 2013 and October 2017. Concentrations of ethylbenzene (12 J µg/L) and total xylenes (56 J µg/L) reported during the October 2017 were detected above their respective PCGs. The xylene concentration detected in October 2017 represents a historic maximum value and is greater than the initial value (2.7 J µg/L) detected in December 2013. The ethylbenzene concentration detected in October 2017 is less than the maximum value (15 µg/L) detected in March 2015 but is greater than the initial value (0.40 J µg/L) detected in December 2013. No other COCs were detected above their respective PCGs during the October 2017 event.

### SV15

Concentrations of COCs at SV15 have generally decreased or remained stable between December 2013 and October 2017 with some variation. All COC concentrations reported during the April and October 2017 events were either not detected or below their respective PCGs. In addition, all COCs have been below their PCGs since December 2013 with the exception lead exceedance in March 2015, when a concentration of 15.4 µg/L was observed. Lead has not been detected at this location since March 2015.

### MW07S, MW07I, MW08S, MW09S

No detections of COCs were reported at these monitoring wells in April and October 2017, as has historically been the case.

## **2.1.5 LNAPL Monitoring**

Light non-aqueous phase liquid (LNAPL) was encountered during the Fourth Quarter 2016 and the First Quarter 2017 at wells MW16S, MW17S, and MW19S. Weekly monitoring using an oil/water interface probe and a photoionization detector (PID) was initiated in October 2016. LNAPL recovery using a bailer was performed on a weekly basis to recover LNAPL. The LNAPL thickness decreased since first detected in October 2016 to not measurable in March 2017. A summary of measured LNAPL thicknesses are presented below:

- MW16S - A maximum LNAPL thickness of 0.60 feet was measured on 11 January 2017. LNAPL has not been encountered at this location in measurable quantities since 27 January 2017.

- MW17S - A maximum LNAPL thickness of 1.12 feet was measured on 19 October 2016. The LNAPL thickness has decreased at this location and was measured at 0.14 foot on 24 February 2017. LNAPL has not been encountered at this location in measurable quantities since 20 March 2017.
- MW19S - A maximum LNAPL thickness of 1.05 feet was measured on 18 November 2016. LNAPL has not been encountered at this location in measurable quantities since 27 January 2017.

### 3.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater monitoring should be continued. The monitoring program should include monitoring of the seven wells originally identified in *the Performance and Shutdown Evaluation* (Tetra Tech 2013), as well as the four additional sentry wells added in the latter half of 2015. Semiannual monitoring (in the spring and fall seasons) is planned for 2018. In addition, LNAPL gauging should continue to be performed in the event that measurable product is observed.

Monitoring data should continue to be collected and evaluated to determine the necessary course of action required to address remaining COCs at the site. Preparation of a Remedial Alternative Analysis, to be performed by others, should be completed.



## 4.0 REFERENCES

KOMAN Government Solutions, LLC. (KGS). 2016. *2016 Annual Monitoring Report, AS/SVE System, Former Fuel Depot Area – Site 7, Naval Weapons Industrial Reserve Plant, Calverton, New York.* November.

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Tetra Tech EC, Inc. (TtEC). 2007. *Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparging System at Former Naval Weapons Industrial Reserve Plant Calverton, NY.* February.

Tetra Tech, Inc. (Tetra Tech). 2013. *Performance and Shutdown Evaluation of the Air Sparge/Soil Vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York.* November.

**Table 1A**  
**Summary of Groundwater Elevation Data**  
**April 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Well ID	Date	Well Elevation (ft amsl)	Total Measured Well Depth (ft bTOC)	Depth to Water (ft bTOC)	Groundwater Elevation (ft amsl)
MW07S	04/05/17	NRE	22.74	18.84	--
MW07I	04/05/17	NRE	44.04	17.98	--
MW08S	04/05/17	NRE	22.48	18.27	--
MW09S	04/05/17	NRE	22.64	17.87	--
MW10S	04/05/17	56.81	22.82	19.90	36.91
MW11S	04/05/17	55.24	28.20	18.34	36.90
MW12S	04/05/17	55.54	28.74	18.81	36.73
MW16S	04/05/17	58.02	25.87	20.74	37.28
MW17S	04/05/17	57.30	25.45	20.08	37.22
SV2	04/05/17	NRE	24.04	19.53	--
SV4	04/05/17	NRE	30.24	19.93	--
SV11	04/05/17	NRE	29.20	17.92	--
SV13	04/05/17	NRE	28.57	19.91	--
SV15	04/05/17	NRE	26.64	16.81	--

**Notes:**

amsl - above mean sea level

ft - feet

bTOC - below top of casing

-- - Not Applicable

NRE - No reference elevation available

**Table 1B**  
**Summary of Groundwater Elevation Data**  
**October 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Well ID	Date	Well Elevation (ft amsl)	Total Measured Well Depth (ft bTOC)	Depth to Water (ft bTOC)	Groundwater Elevation (ft amsl)
MW07S	10/10/17	NRE	22.95	18.96	--
MW07I	10/10/17	NRE	43.70	18.14	--
MW08S	10/10/17	NRE	22.21	18.28	--
MW09S	10/10/17	NRE	22.21	17.95	--
MW10S	10/10/17	56.81	22.85	19.95	36.86
MW11S	10/10/17	55.24	28.25	18.43	36.81
MW12S	10/10/17	55.54	28.96	18.70	36.84
MW16S	10/10/17	58.02	25.74	20.83	37.19
MW17S	10/10/17	57.30	25.43	20.13	37.17
SV2	10/10/17	NRE	23.45	20.02	--
SV4	10/10/17	NRE	29.94	20.06	--
SV11	10/10/17	NRE	29.20	17.98	--
SV13	10/10/17	NRE	28.61	19.91	--
SV15	10/10/17	NRE	26.65	16.89	--

**Notes:**

amsl - above mean sea level

ft - feet

bTOC - below top of casing

-- - Not Applicable

NRE - No reference elevation available

**Table 2A**  
**Summary of Groundwater Chemistry Results**  
**April 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Location	Date	Temp (°C)	pH (SU)	S.C. (µS/cm3 )	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Color (Visual)
MW07S	4/5/2017	12.15	5.14	47.0	9.08	-264.1	4.67	clear
MW07I	4/5/2017	12.97	5.88	98.0	0.67	-243.2	0.38	clear
MW08S	4/5/2017	12.57	4.34	83.0	7.69	-209.3	4.57	clear
MW09S	4/5/2017	12.83	5.76	96.0	2.18	-245.4	2.68	clear
MW16S	4/6/2017	15.44	6.15	263.0	0.31	-221.1	0.73	clear
MW17S	4/6/2017	15.33	6.14	423.0	0.17	-223.0	0.18	clear
SV2	4/6/2017	17.06	5.86	252.0	0.46	-230.1	39.10	clear
SV4	4/6/2017	14.40	6.14	185.0	9.02	-146.2	3.97	clear
SV11	4/6/2017	15.72	6.19	183.0	3.26	-127.2	5.17	clear
SV13	4/5/2017	15.63	5.96	218.0	0.43	-277.3	1.96	clear
SV15	4/6/2017	15.46	6.00	236.0	12.03	-124.3	7.21	clear

**Notes:**

mS/cm = milliSiemens per centimeter

NTU = nephelometric turbidity units

mg/L = milligrams per liter

°C = degrees celsius

mV = millivolts

SU = standard units

ORP = oxidation/reduction potential

NWIRP = Naval Weapons Industrial Reserve Plant



**Table 2B**  
**Summary of Groundwater Chemistry Results**  
**October 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Location	Date	Temp (°C)	pH (SU)	S.C. (µS/cm3 )	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Color (Visual)
MW07S	10/10/2017	14.09	3.90	47.0	7.85	-75.9	1.32	Clear
MW07I	10/12/2017	12.48	5.60	126.0	0.01	-195.1	0.89	Clear
MW08S	10/10/2017	13.40	3.84	78.3	8.81	317.9	1.05	Clear
MW09S	10/10/2017	14.72	5.68	138.0	1.42	-146.7	0.75	Clear
MW16S	10/11/2017	17.10	5.85	235.1	0.16	-49.7	1.05	Clear
MW17S	10/10/2017	17.38	5.97	366.0	6.09	-169.5	0.70	Clear
SV2	10/10/2017	17.50	5.65	241.0	0.19	-60.2	2.65	Clear
SV4	10/11/2017	17.02	5.78	277.0	0.06	-159.7	2.68	Clear
SV11	10/11/2017	17.03	5.25	123.0	2.30	-143.5	2.42	Clear
SV13	10/11/2017	15.47	5.91	165.0	4.07	-156.3	9.88	Clear
SV15	10/11/2017	17.60	5.90	222.3	1.34	-79.6	5.94	Clear

**Notes:**

mS/cm = milliSiemens per centimeter

NTU = nephelometric turbidity units

mg/L = milligrams per liter

°C = degrees celsius

mV = millivolts

SU = standard units

ORP = oxidation/reduction potential

NWIRP = Naval Weapons Industrial Reserve Plant

Table 3A  
Summary of Groundwater Analytical Results  
April 2017  
NWIRP Calverton Site 7  
Calverton, New York

		VOCs (Method 8260)						SVOCs (Method 8270)	Metals (Method 6010)
Well ID	Date Sampled	Benzene	Ethyl- benzene	Freon 113	Naph- thalene	Toluene	Total Xylenes	2-Methyl- naphthalene	Total Lead
2013 Proposed Closeout Goal <sup>(1)</sup>		5	5	5	50	5	5	50	15
MW07S	4/5/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.6 U	2.5 U
MW07I	4/5/2017	1.0 U	1.0 U	1.0 U	5.5	1.0 U	1.3 J	5.0 U	2.5 U
MW08S	4/5/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW09S	4/5/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW16S	4/6/2017	1.0 U	13	1.2 J	6.1	1.0 U	5.0 J	5.0 U	2.2 J
MW17S	4/6/2017	1.0 U	44	1.0 U	67	1.0 U	100	32	2.4 J
SV2	4/6/2017	2.0 U	98	2.0 U	23	2.0 U	356	5.0 U	3.0 J
DUP-1 (SV13)	4/5/2017	1.0 U	4.4 J	1.0 U	5.8	1.0 U	12	1.5 J	2.5 U
SV4	4/6/2017	1.0 U	6.1	0.84 J	19	1.0 U	46	5.0 U	3.6 J
SV11/MW40S	4/6/2017	1.0 U	1.0 U	4.2 J	1.0 U	1.0 U	0.24 J	5.0 U	2.5 U
SV13	4/5/2017	1.0 U	3.9 J	1.0 U	5.0 J	1.0 U	11	1.2 J	2.5 U
SV15	4/6/2017	1.0 U	1.0 U	1.4 J	1.0 U	1.0 U	2.0 U	5.0 U	2.5 U

**Notes:**

U - Not detected above laboratory detection limit (DL). Value given is limit of detection (LOD).

J - Estimated value

NA - Not sampled / analyzed for associated parameter

VOC - volatile organic compound

SVOC - semi-volatile organic compound

All values presented in micrograms per liter (µg/L).

**Bold** values indicate detections. Shading indicates detections in exceedance of the 2013 Proposed Closeout Goal.

NWIRP = Naval Weapons Industrial Reserve Plant

<sup>1</sup>Clean-up criteria taken from the *Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York* prepared by Tetra Tech in November 2013.

**Table 3B**  
**Summary of Groundwater Analytical Results**  
**October 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

		VOCs (Method 8260)						SVOCs (Method 8270)	Metals (Method 6010)
Well ID	Date Sampled	Benzene	Ethyl- benzene	Freon 113	Naph- thalene	Toluene	Total Xylenes	2-Methyl- naphthalene	Total Lead
2013 Proposed Closeout Goal <sup>(1)</sup>		5	5	5	50	5	5	50	15
MW07S	10/10/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW07I	10/12/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW08S	10/10/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW09S	10/10/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW16S	10/11/2017	1.0 U	15	1.0 U	9.0	1.0 U	9.2 J	5.0 U	5.0 U
MW17S	10/10/2017	1.0 U	77	1.0 U	30	1.0 U	211 J	5.1 J	5.0 U
SV2	10/10/2017	2.0 U	120	2.0 U	33	2.0 U	785	21	5.0 U
DUP-1 (MW16S)	10/11/2017	1.0 U	17	1.0 U	10	1.0 U	11 J	3.2 J	5.0 U
SV4	10/11/2017	1.0 U	7.6	2.1 J	16	1.0 U	76	9.7	5.0 U
SV11/MW40S	10/11/2017	1.0 U	1.0 U	2.6 J	2.7 J	1.0 U	1.77 J	5.0 U	5.0 U
SV13	10/11/2017	1.0 U	12	1.0 U	15	1.0 U	56	5.0 U	5.0 U
SV15	10/11/2017	1.0 U	1.0 U	2.6 J	0.67 J	1.0 U	3.0 U	5.0 U	5.0 U

**Notes:**

U - Not detected above laboratory detection limit (DL). Value given is limit of detection (LOD).

J - Estimated value

NA - Not sampled / analyzed for associated parameter

VOC - volatile organic compound

SVOC - semi-volatile organic compound

All values presented in micrograms per liter (µg/L).

**Bold** values indicate detections. Shading indicates detections in exceedance of the 2013 Proposed Closeout Goal.

NWIRP = Naval Weapons Industrial Reserve Plant

<sup>1</sup>Clean-up criteria taken from the *Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York* prepared by Tetra Tech in November 2013.

**Table 4**  
**Summary of Groundwater Analytical Results**  
**December 2013 - October 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

		VOCs (Method 8260)								SVOCs (Method 8270)	Metals (Method 6010)
Well ID	Date Sampled	Benzene	Ethyl- benzene	Freon 113	Naph- thalene	Toluene	m,p-xylene	o-xylene	Total Xylenes	2-Methyl- naphthalene	Total Lead
2013 Proposed Closeout Goal <sup>(1)</sup>		5	5	5	50	5	--	--	5	50	15
MW07S	9/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.4 U
MW07S	12/2/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW07S	3/23/2016	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW07S	10/5/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	1.5 U
MW07S	4/5/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.6 U	2.5 U
MW07S	10/10/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW07I	9/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.2 U
MW07I	12/2/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW07I	3/23/2016	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW07I	10/5/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	1.5 U
MW07I	4/5/2017	1.0 U	1.0 U	1.0 U	5.5	1.0 U	2.0 U	1.3 J	3.3 J	5.0 U	2.5 U
MW07I	10/12/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW08S	9/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW08S	12/2/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW08S	3/24/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW08S	10/5/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	1.5 U
MW08S	4/5/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW08S	10/10/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW09S	9/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.2 U
MW09S	12/2/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW09S	3/24/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW09S	10/5/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	1.5 U
MW09S	4/5/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
MW09S	10/10/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	5.0 U
MW16S	12/9/2013	1.0 U	16.9	1.0 U	14.3 J	0.25 J	9.1	0.26 J	64.1	1.9 U	41
MW16S	3/26/2014	1.0 U	9.8	1.0 U	8.7	1.0 U	9.1	0.26 J	9.4	1.2 J	1.5 U
MW16S	6/18/2014	1.0 U	17	1.0 U	14	0.22 J	26	1.0 U	26	7.3 J	1.8 J
DUP-1 (MW16S)	6/18/2014	1.0 U	14	1.0 U	13	1.0 U	23	1.0 U	23	3.6 J	1.1 J
MW16S	9/24/2014	1.0 U	6.6	1.1 J	7.0	1.0 U	15	0.43 J	15	6.7 J	2.5 U
MW16S	12/16/2014	1.0 U	12	5.2	2.2 J	1.0 U	4.3 J	1.0 U	4.3 J	1.2 J	3.3 J
MW16S	3/18/2015	1.0 U	5.8	0.83 J	5.6	1.0 U	13	1.0 U	13	4.4 J	2.5 U
MW16S	6/24/2015	1.0 U	14	1.0 U	12	1.0 U	35	0.61 J	36	9.1 J	2.5 U
MW16S	9/17/2015	1.0 U	5.4	0.41 J	5.1	1.0 U	13	1.0 U	14	9.6	4.7 U
MW16S	12/3/2015	1.0 U	12	1.0 UJ	12	0.21 J	23 J	1.0 U	23 J	11	2.5 U
DUP-1 (MW16S)	12/3/2015	1.0 U	9.6	0.51 J	12	0.20 J	16 J	1.0 U	16 J	11	2.5 U
MW16S	3/24/2016	1.0 U	22	1.0 U	13	1.0 U	23	1.0 U	23	3.0 J	2.5 U
MW16S	10/6/2016	1.0 U	36	2.3 J	55	1.0 U	42	1.0 U	42	16.0	1.1 J
MW16S	4/6/2017	1.0 U	13	1.2 J	6.1	1.0 U	4.7 J	0.32 J	5.0 J	5.0 U	2.2 J
MW16S	10/11/2017	1.0 U	15	1.0 U	9.0	1.0 U	8.8	0.38 J	9.2 J	5.0 U	5.0 U
DUP-1 (MW16S)	10/11/2017	1.0 U	17	1.0 U	10	1.0 U	10	0.68 J	11 J	3.2 J	5.0 U
MW17S	12/10/2013	1.0 U	7.1	1.0 U	22.7 J	0.25 J	35	0.65 J	10.3	1.9 U	18
MW17S	3/26/2014	1.0 U	17	1.0 U	41	0.20 J	35	0.65 J	36	5.0 J	13.1
MW17S	6/18/2014	1.0 U	22	1.0 U	40	0.21 J	38	0.39 J	38	9.4 J	10.8
MW17S	9/24/2014	1.0 U	12	1.0 U	28 J	0.20 J	30	0.40 J	30	23	6.0
DUP-1 (MW17S)	9/24/2014	1.0 U	12	1.0 U	32	0.21 J	37	0.38 J	37	22	6.3
MW17S	12/16/2014	1.0 U	22	1.0 U	36	1.0 U	68	1.2 J	69	8.3 J	3.7 J
MW17S	3/18/2015	1.0 U	11	0.38 J	17	1.0 U	23	1.0 U	23	5.0 U	2.6 J
MW17S	6/24/2015	1.0 U	9.5	0.83 J	38	1.0 U	30	0.46 J	30	23	2.8 J
MW17S	9/17/2015	1.0 U	17	2.0 J	27	1.0 U	49	0.59 J	50 J	27	8.1 U
MW17S	12/3/2015	1.0 U	24	1.0 U	55	0.20 J	30	0.53 J	31 J	23	4.7 U
MW17S	3/24/2016	1.0 U	50	1.0 U	41	1.0 U	51	0.57 J	52	24	2.5 U
MW17S	Oct-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW17S	4/6/2017	1.0 U	44	1.0 U	67	1.0 U	98	2.0 J	100	32	2.4 J
MW17S	10/10/2017	1.0 U	77	1.0 U	30	1.0 U	210	1.4 J	211 J	5.1 J	5.0 U

**Table 4**  
**Summary of Groundwater Analytical Results**  
**December 2013 - October 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Well ID	Date Sampled	Benzene	Ethyl-benzene	Freon 113	Naphthalene	Toluene	m,p-xylene	o-xylene	Total Xylenes	2-Methyl-naphthalene	Total Lead
SV2	12/12/2013	1.0 U	98.9	1.0 U	28.2 J	1.4	240	35	645 J	20.2	26
DUP-1 (SV2)	12/12/2013	1.0 U	102	1.0 U	29.6 J	1.4	240	35	626	20.4	33
SV2	3/27/2014	1.0 U	140	1.0 U	24	0.77 J	240	35	275	42	0.813 U
SV2	6/18/2014	1.0 U	130	1.0 U	26	1.0 J	360	32	392	58	2.5 U
SV2	9/24/2014	2.5 U	140	2.5 U	37	1.6 J	630	96	726	83	2.5 U
SV2	12/16/2014	2.5 U	160	2.5 U	33	1.2 J	760	78	838	70	2.5 U
SV2	3/18/2015	1.0 U	160	1.0 U	33	0.98 J	840	81	921	60	2.5 U
DUP-1 (SV2)	3/18/2015	1.0 U	170	1.0 U	37	0.88 J	790	76	866	62	2.5 U
SV2	6/24/2015	5.0 U	210	5.0 U	36	1.4 J	1200	82	1282	56	2.5 U
SV2	9/17/2015	5.0 U	220	5.0 U	51	1.4 J	1500	130	1630	69	3.0 U
SV2	12/3/2015	5.0 U	310	5.0 U	71	5.0 U	1400	43	1443	5.0 U	2.5 U
SV2	3/24/2016	2.0 U	210	3.4 J	38	2.0 U	470 J	40	510 J	40	2.5 U
DUP-1 (SV2)	3/24/2016	1.0 U	170	3.5 J	41	0.38 J	300 J	39	339 J	45	2.5 U
SV2	10/6/2016	1.0 U	390	5.0 U	66	5.00 U	1900	49	1949	52	1.5 U
SV2	4/6/2017	2.0 U	98	2.0 U	23	2.0 U	310	46	356	5.0 U	3.0 J
SV2	10/10/2017	2.0 U	120	2.0 U	33	2.0 U	750	35	785	21.0	5.0 U
SV4	12/12/2013	1.0 U	1.0 U	1.0 U	17.4 J	1.0 U	1.1 J	1.4	5.0	1.9 U	2.5
SV4	3/27/2014	1.0 U	1.9	1.0 U	7.0	1.0 U	1.1 J	1.4	2.5	6.7 J	1.9 U
SV4	6/18/2014	1.0 U	1.7 J	0.45 J	7.1	1.0 U	0.92 J	0.70 J	1.6 J	4.3 J	1.1 J
SV4	9/24/2014	1.0 U	4.6 J	2.6 J	14	1.0 U	7.2	4.1 J	11	11	2.0 U
SV4	12/16/2014	1.0 U	5.2	0.41 J	11	1.0 U	10	4.4 J	14	4.3 J	0.906 J
SV4	3/18/2015	1.0 U	8.2	0.77 J	7.4	1.0 U	20	8.9	29	5.9 J	2.5 U
SV4	6/24/2015	1.0 U	8.7	1.6 J	9.3	1.0 U	30	13	43	7.7 J	2.5 U
DUP-1 (SV4)	6/24/2015	1.0 U	8.8	1.4 J	11	1.0 U	30	13	43	7.5 J	2.5 U
SV4	9/17/2015	1.0 U	11	1.0 J	12	1.0 U	66	17	83	11	2.5 U
SV4	12/3/2015	1.0 U	6.9	0.44 J	5.3	1.0 U	36	5	41	6.6 J	2.5 U
SV4	3/23/2016	1.0 U	4.9 J	1.0 U	4.3 UJ	1.0 U	21	4.2 J	25	1.0 U	2.5 U
SV4	10/6/2016	1.0 U	12	5.8	10	5.0 U	95	8.4	103	4.6 J	5.0 J
SV4	4/6/2017	1.0 U	6.1	0.84 J	19	1.0 U	33	13	46	5.0 U	3.6 J
SV4	10/11/2017	1.0 U	7.6	2.10 J	16	1.0 U	62	14	76	9.7	5.0 U
SV11/MW40S	12/12/2013	5.0 U	1.8 J	137	23.6 J	3.2 J	3.8	4.7	9.1 J	1.9 U	9.5
SV11/MW40S	3/27/2014	1.0 U	1.2	52 J	9.1	0.64 J	3.8	4.7	8.5	2.6 J	1.1 U
DUP-1 (SV11)	3/27/2014	1.0 U	0.86 J	36 J	7.9	0.48 J	3.0	3.8	6.8	2.5 J	1.9 U
SV11/MW40S	6/18/2014	1.0 U	0.27 J	31	2.7 U	0.28 J	0.55 J	0.80 J	1.4 J	5.0 U	2.5 U
SV11/MW40S	9/24/2014	1.0 U	0.54 J	32	6.9	0.78 J	2.8 J	3.1 J	5.9 J	5.0 U	2.5 U
SV11/MW40S	12/16/2014	1.0 U	0.21 J	15	2.6 J	1.0 U	0.93 J	1.1 J	2.0 J	5.0 U	2.5 U
SV11/MW40S	3/18/2015	1.0 U	0.27 J	8.8	0.84 U	1.0 U	0.60 J	0.55 J	1.2 J	5.0 U	2.5 U
SV11/MW40S	6/24/2015	1.0 U	0.20 J	11	1.8 U	0.27 J	0.61 J	1.1 J	1.7 J	5.0 U	2.5 U
SV11/MW40S	9/17/2015	1.0 U	0.93 J	38 J	9.6	0.47 J	5.1 J	5.3 J	10.4 J	3.7 J	1.7 U
DUP-1 (SV11)	9/17/2015	1.0 U	0.68 J	28 J	7.3	0.33 J	3.6 J	3.9 J	7.5 J	3.6 J	4.4 U
SV11/MW40S	12/2/2015	1.0 U	0.36 J	15	2.9 U	0.21 J	1.4 J	1.4 J	2.8 J	1.1 J	2.5 U
SV11/MW40S	3/23/2016	1.0 U	0.24 J	11	1.3 UJ	0.24 J	0.47 J	0.92 J	1.4 J	5.0 U	2.5 U
SV11/MW40S	10/5/2016	1.0 U	0.50 J	3.9 J	4.3 J	2.00 U	0.47 J	1.70 J	2.2	5.0 U	1.5 U
SV11/MW40S	4/6/2017	1.0 U	1.0 U	4.2 J	1.0 U	1.0 U	2.0 U	0.24 J	0.24 J	5.0 U	2.5 U
SV11/MW40S	10/11/2017	1.0 U	1.0 U	2.6 J	2.7 J	1.0 U	0.67 J	1.10 J	1.77 J	5.0 U	5.0 U
SV13	12/11/2013	1.0 U	0.40 J	1.0 U	2.0 UJ	1.0 U	14	8.9	2.7 J	1.9 U	2.2 U
SV13	3/26/2014	1.0 U	8.7	1.0 U	4.4	1.4	14	8.9	23	5.0 U	0.813 U
SV13	6/18/2014	1.0 U	8.5	1.0 U	6.6	0.89 J	11	6.9	18	1.0 J	2.5 U
SV13	9/24/2014	1.0 U	9.2	1.0 U	7.0	1.1 J	17	7.6	25	9.7	2.5 U
SV13	12/16/2014	1.0 U	6.2	1.0 U	4.0 J	0.25 J	11	2.4 J	13	5.0 U	2.5 U
DUP-1 (SV13)	12/16/2014	1.0 U	6.2	1.0 U	4.8 J	0.21 J	11	2.4 J	13	5.0 U	2.5 U
SV13	3/17/2015	1.0 U	15	1.0 U	7.5	1.0 J	20	8.2	28	5.0 U	2.5 U
SV13	6/24/2015	1.0 U	7.9	1.0 U	6.6	0.72 J	13	4.9 J	18	5.0 U	2.5 U
SV13	9/16/2015	1.0 U	6.1	1.0 U	4.9 J	0.30 J	14	3.0 J	17 J	5.0 U	1.9 U
SV13	12/2/2015	1.0 U	1.8 J	1.0 U	1.4 U	1.0 U	2.0 J	0.68 J	2.7 J	5.0 U	2.5 U
SV13	3/23/2016	1.0 U	12	1.0 U	4.5 UJ	0.33 J	14	8.1	22	5.0 U	2.5 U
SV13	10/5/2016	1.0 U	3.2 J	1.0 U	0.7 J	1.00 U	2.3 J	1.9 J	4.2	5.0 U	1.5 U
SV13	4/5/2017	1.0 U	3.9 J	1.0 U	5.0 J	1.0 U	5.9	5.4	11	1.2 J	2.5 U
DUP-1 (SV13)	4/5/2017	1.0 U	4.4 J	1.0 U	5.8	1.0 U	6.1	5.8	12	1.5 J	2.5 U
SV13	10/11/2017	1.0 U	12	1.0 U	15	1.0 U	26	30	56	5.0 U	5.0 U

**Table 4**  
**Summary of Groundwater Analytical Results**  
**December 2013 - October 2017**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Well ID	Date Sampled	Benzene	Ethyl-benzene	Freon 113	Naphthalene	Toluene	m,p-xylene	o-xylene	Total Xylenes	2-Methyl-naphthalene	Total Lead
SV15	12/12/2013	1.0 U	1.0 U	<b>0.77 J</b>	2.0 UJ	1.0 U	2.0 U	1.0 U	2.0 UJ	<b>9.8</b>	<b>1.1 J</b>
SV15	3/27/2014	1.0 U	1.0 U	<b>0.63 J</b>	<b>1.2</b>	1.0 U	2.0 U	1.0 U	2.0 U	<b>9.0 J</b>	0.813 U
SV15	6/18/2014	1.0 U	1.0 U	<b>0.39 J</b>	0.49 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	<b>1.7 J</b>
SV15	9/24/2014	1.0 U	1.0 U	<b>0.40 J</b>	0.88 U	1.0 U	2.0 U	1.0 U	2.0 U	<b>1.4 J</b>	2.5 U
SV15	12/16/2014	1.0 U	1.0 U	1.0 U	<b>0.63 J</b>	1.0 U	2.0 U	1.0 U	2.0 U	<b>4.0 J</b>	2.5 U
SV15	3/18/2015	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	<b>15.4</b>
SV15	6/24/2015	1.0 U	1.0 U	1.0 U	0.38 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
SV15	9/17/2015	1.0 U	1.0 U	1.0 U	<b>0.27 J</b>	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	3.7 U
SV15	12/2/2015	1.0 U	1.0 U	1.0 U	0.34 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
SV15	3/23/2016	1.0 U	1.0 U	<b>0.62 J</b>	0.53 UJ	1.0 U	2.0 U	1.0 U	2.0 U	<b>3.4 J</b>	2.5 U
SV15	10/5/2016	1.0 U	1.0 U	<b>1.00 U</b>	1.00 U	1.0 U	1.0 U	2.0 U	3.0 U	5.0 U	1.5 U
SV15	4/6/2017	1.0 U	1.0 U	<b>1.4 J</b>	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	5.0 U	2.5 U
SV15	10/11/2017	1.0 U	1.0 U	<b>2.6 J</b>	<b>0.67 J</b>	1.0 U	2.0 U	1.0 U	3.0 U	5.0 U	5.0 U

**Notes:**

U - Not detected above laboratory detection limit (DL). Value given is limit of detection (LOD).

J - Estimated value

NA - Not sampled / analyzed for associated parameter

VOC - volatile organic compound

SVOC - semi-volatile organic compound

All values presented in micrograms per liter (µg/L).

**Bold** values indicate detections. Shading indicates detections in exceedance of the 2013 Proposed Closeout Goal.

NWIRP = Naval Weapons Industrial Reserve Plant

<sup>1</sup>Clean-up criteria taken from the *Performance and Shutdown Evaluation of the Air Sparge Soil vapor Extraction System, Site 7 - Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York* prepared by Tetra Tech in November 2013.



**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW04S										
			3/30/2006	6/20/2006	8/29/2006	10/31/2006	1/11/2007	3/8/2007	6/20/2007	9/18/2007	12/17/2007	3/17/2008	6/23/2008
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	<b>89.9</b>	ND	ND	ND	ND	<b>13.5</b>	ND	ND	ND	<b>17.9</b>	ND
Freon 113	5	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	<b>30.7</b>	ND	ND	ND	ND	1.3J	ND	ND	ND	5.2	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	<b>225.0</b>	ND	ND	ND	ND	<b>24.5</b>	ND	ND	ND	<b>53.2</b>	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW04S										
			12/15/2008	3/25/2009	12/15/2009	3/1/2010	12/15/2010	4/14/2011	12/7/2011	3/28/2012	12/5/2012	4/2/2013	12/12/2013
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	2.6	ND	2.0	<b>51.1</b>	2.4	2.4	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	0.64 J	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	1.1J	ND	ND	4.9 J	3.3	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	2.5	<b>39.7</b>	ND	ND	ND	0.72J	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW07S										
			3/30/2006	6/20/2006	8/29/2006	10/30/2006	1/11/2007	3/8/2007	6/21/2007	9/19/2007	12/18/2007	3/18/2008	6/25/2008
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49J
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW07S										
			12/15/2008	3/25/2009	12/15/2009	3/2/2010	8/25/2010	10/13/2010	1/2/2011	4/14/2011	12/7/2011	3/28/2012	12/6/2012
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	0.43J	ND	0.30	0.51J	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW07S							
			4/3/2013	12/12/2013	9/16/2015	12/2/2015	3/23/2016	10/5/2016	4/5/2017	10/10/2017
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.



**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW10S												
			3/30/2006	6/20/2006	8/29/2006	10/30/2006	1/11/2007	3/8/2007	6/21/2007	9/19/2007	12/18/2007	3/18/2008	6/25/2008	9/10/2008	12/15/2008
Benzene	1	5	ND	ND	3.0	5.6	ND	2.1	2.4	0.89J	ND	0.47J	ND	0.46J	ND
Ethylbenzene	5	5	89.5	121.0	86.1	202.0	42.2	148.0	193.0	64.1	75.0	104.0	130.0	70.5	140.0
Freon 113	5	5	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22J
Naphthalene	10	50	63.2	41.0	89.2	77.3	21.6	40.6	59.6	22.3	26.3	37.9	76.9	54.7	71.8
Toluene	5	5	3.8	8.5	10.6	5.0	ND	1.3	5.8	3.0	1.3	1.1	3.9	3.5	7.7
Total Xylenes	5	5	209.0	264.0	189.0	399.0	15.5	16.0	130.0	31.6	82.3	192.0	342.0	159.0	355.0

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW10S											
			3/25/2009	12/15/2009	3/2/2010	8/25/2010	10/13/2010	12/15/2010	4/14/2011	12/7/2011	3/28/2012	12/6/2012	4/3/2013	12/12/2013
Benzene	1	5	ND	0.34	0.42 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	130.0	64.9	79.0	120.0	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	71.3	27.5	31.1	31.0	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	7.7	1.0	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	296.0	136	180	190	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW11S											
			3/30/2006	6/20/2006	8/29/2006	10/30/2006	1/11/2007	3/8/2007	6/21/2007	9/19/2007	12/18/2007	3/18/2008	6/25/2008	9/10/2008
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	19.2
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	1.2 J	ND	10.1	7.3
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.9	9.7

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW11S											
			12/15/2008	3/25/2009	12/15/2009	3/2/2010	12/15/2010	4/14/2011	12/7/2011	3/28/2012	12/6/2012	4/3/2013	12/12/2013	
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethylbenzene	5	5	12.6	20.4	5.6	2.1	ND	ND	2.2	ND	ND	ND	ND	
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Naphthalene	10	50	9.0	0.75 J	7.00	1.1 J	ND	ND	1.5 J	ND	ND	ND	ND	
Toluene	5	5	0.24J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Xylenes	5	5	6.2	ND	6.90	1.4	ND	ND	ND	ND	ND	ND	ND	

**Notes:**

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J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW16S																	
			3/27/2006	6/20/2006	8/28/2006	10/31/2006	1/11/2007	3/5/2007	6/20/2007	9/20/2007	12/17/2007	3/19/2008	6/24/2008	9/8/2008	12/15/2008	3/24/2009	12/14/2009	3/1/2010	12/15/2010	4/14/2011
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	34.5	ND	ND	ND	ND	ND	ND	ND	ND	14.0	5.2	ND	ND	12.7	0.37	7.9	0.37 J	2.8
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	54.6	ND	ND	ND	ND	ND	ND	ND	ND	17.6	1.3 J	ND	ND	13.2	ND	7.9	ND	2.4
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	9.1	ND	ND	ND	ND	ND	ND	0.41 J	ND	25.1	9.5	ND	ND	31.5	1.40	28.5	0.78 J	6.6

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW16S																	
			12/7/2011	3/27/2012	12/5/2012	4/2/2013	12/12/2013	3/26/2014	6/18/2014	9/24/2014	12/16/2014	3/18/2015	6/24/2015	9/17/2015	12/3/2015	3/24/2016	10/6/2016	4/6/2017	10/11/2017	10/11/2017 (DUP-1)
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	1.4	1.6	5.8	ND	16.9	9.8	17	6.6	12	5.8	14	5.4	12	22	36	13	15	17
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	1.1 J	5.2	0.83 J	ND	0.41 J	ND	ND	2.3 J	1.2 J	ND	ND
Naphthalene	10	50	1.2 J	1.5 J	10.2	5.0 J	14.3 J	8.7	14	7.0	2.2 J	5.6	12	5.1	12	13	55	6.1	9	10
Toluene	5	5	ND	ND	ND	ND	0.25 J	ND	0.22 J	ND	ND	ND	ND	ND	0.21 J	ND	ND	ND	ND	ND
Total Xylenes	5	5	5.3	4.9	18.0	ND	64.1	9.4	26	15	4.3 J	13	36	14	23 J	23	42	5.0 J	9.2 J	11 J

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007)

prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW17S																
			3/27/2006	6/20/2006	8/28/2006	10/31/2006	1/11/2007	3/5/2007	6/20/2007	9/20/2007	12/17/2007	3/19/2008	6/24/2008	9/8/2008	12/15/2008	3/24/2009	12/14/2009	3/1/2010	12/14/2010
Benzene	1	5	4.8	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	70.6	22.2	5.6	7.8	2.1	16.9	29.2	26.0	25.1	26.6	17.0	30.4	10.5	12.8	2.90	0.99 J	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	69.5	38.5	ND	20.3	4.7	29.3	70.0	81.1	78.3	60.6	54.4	114.0	30.3	34.1	12.50	6.80	4.7 J
Toluene	5	5	ND	1.9	1.2	ND	ND	ND	0.44J	0.34J	ND	ND	0.59 J	0.57 J	0.25 J	0.33 J	0.32	ND	ND
Total Xylenes	5	5	179.0	75.0	24.2	38.4	9.3	35.8	90.3	84.6	78.8	59.3	53.6	92.1	23.3	39.2	14.00	7.20	1.70

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW17S																
			4/14/2011	12/7/2011	3/27/2012	12/5/2012	4/2/2013	12/12/2013	3/26/2014	6/18/2014	9/24/2014	12/16/2014	3/18/2015	6/24/2015	9/17/2015	12/3/2015	3/24/2016	4/6/2017	10/11/2017
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	2.7	0.78 J	4.2	9.2	4.7	7.1	17	22	12	22	11	9.5	17	24	50	44	77
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38 J	0.83 J	2.0 J	ND	ND	ND	ND
Naphthalene	10	50	19.3	2.1 J	14.9	28.8	13.4 J	22.7 J	41	40	28 J	36	17	38	27	55	41	67	30
Toluene	5	5	ND	ND	ND	ND	ND	0.25 J	0.20 J	0.21 J	0.20 J	ND	ND	ND	ND	0.20 J	ND	ND	ND
Total Xylenes	5	5	5.0	3.0	14.2	47.5	12.1	10.3	36	38	30	69	23	30	50	31 J	52	100	122 J

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW19S												
			3/27/2006	6/20/2006	8/28/2006	10/31/2006	1/11/2007	3/5/2007	6/21/2007	9/20/2007	12/17/2007	3/19/2008	6/24/2008	9/9/2008	12/15/2008
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	5.0	41.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	6.8	80.1	ND	ND	ND	ND	ND	7.4	ND	3.8	ND	0.62 J	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	8.2	52.7	ND	ND	ND	ND	ND	ND	ND	3.0 J	ND	ND	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW19S											
			3/24/2009	12/15/2009	3/1/2010	12/14/2010	4/14/2011	12/7/2011	3/27/2012	12/5/2012	4/2/2013	12/12/2013	12/15/2008	3/25/2009
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	0.47 J	ND	ND	ND	0.46 J	ND	1.1	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	1.0 J	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	0.40 J	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	1.0 J	ND	ND	ND	ND	ND	1.5 J	ND	ND	ND	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007)

prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW03S	MW08S											
			12/15/2008	12/15/2008	3/25/2009	3/28/2012	12/6/2012	4/3/2013	12/12/2013	9/16/2015	12/2/2015	3/24/2016	10/5/2016	4/5/2017	10/10/2017
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW-09S										
			3/25/2009	3/28/2012	12/6/2012	4/3/2013	12/12/2013	9/16/2015	12/2/2015	3/24/2016	10/5/2016	4/5/2017	10/10/2017
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW02S			
			3/28/2012	12/6/2012	4/3/2013	12/12/2013
Benzene	1	5	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW20S								
			12/15/2009	3/1/2010	12/14/2010	4/14/2011	12/8/2011	3/28/2012	12/6/2012	4/3/2013	12/12/2013
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	0.55 J	0.69 J	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.

**Table 5A**  
**Summary of Historical Groundwater Analytical Results - Monitoring Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW07I					
			9/16/2015	12/2/2015	3/23/2016	10/5/2016	4/5/2017	10/12/2017
Benzene	1	5	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	5.5	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	1.3 J	ND

Constituent	2003 ROD Remediation Goal <sup>(1)</sup>	2013 Proposed Closeout Goal <sup>(2)</sup>	MW-12S				
			3/25/2009	3/28/2012	12/6/2012	4/3/2013	12/12/2013
Benzene	1	5	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND

**Notes:**

ND - not detected above laboratory detection limit

J - Estimated value

All values presented in micrograms per liter (µg/L)

Bold values equal or exceed the clean-up criteria.

SVE = soil vapor extraction

NWIRP = Naval Weapons Industrial Reserve Plant

(1) 2003 ROD Remediation Goal taken from the Final Operations and Maintenance Manual for Soil Vapor Extraction/Air Sparge System (February 2007) prepared by Tetra Tech EC, Inc.

(2) 2013 Proposed Closeout Goal taken from the Performance and Shutdown Evaluation of the Air Sparge/Soil vapor Extraction System, Site 7 – Former Fuel Depot, Naval Weapons Industrial Reserve Plant, Calverton, New York prepared by Tetra Tech in November 2013.





Table 5B  
Summary of Historical Groundwater Analytical Results - SVE Wells  
Trenton, New York  
Cortland, New York

Constituent	2003 RSD Remediation Goal*	2003 Proposed Current Goal*	SVI												4/2003	12/2002	9/2002	10/2001	12/2001
			3/2004	4/2004	5/2004	6/2004	7/2004	8/2004	9/2004	10/2004	11/2004	12/2004	1/2005	2/2005					
Benzene	1	5	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	117.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	168.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trent Nylons	5	5	75.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Constituent	2003 RSD Remediation Goal*	2003 Proposed Current Goal*	SVI																						4/04/03	12/23/02	5/27/04	9/24/04	11/30/04	3/18/05	4/26/05	5/10/05	10/20/05	3/22/06	5/16/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06	2/26/06	4/29/06	8/29/06	12/13/06
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Note:

ND - not detected above laboratory detection limit

\* As specified in the 2003 RSD Remediation Goal

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\* As specified in the 2003 RSD Remediation Goal

\* As specified in the 2003 RSD Remediation Goal

\* As specified in the 2003 RSD Remediation Goal

Table 5B  
Summary of Historical Groundwater Monitoring Results - SV6 Well  
NY987 Calverton Site 7  
Calverton, New York

Constituent	2003 BOD Remediation Goal <sup>(1)</sup>	2013 Proposed Cleanup Goal <sup>(2)</sup>	SV6															
			10/23/2006	6/15/2006	8/23/2006	10/30/2006	3/7/2007	6/18/2007	8/18/2007	12/13/2007	3/17/2008	6/24/2008	8/26/2008	12/15/2008	3/24/2009	6/15/2009	10/19/2009	4/12/2011
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	5.2	ND	4.3	1.4	ND	ND	ND	0.38 J	ND	ND	ND	ND	ND	ND	ND	ND
From 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	10	50	28.3	ND	7.8	5.5	0.61 J	ND	ND	0.70 J	ND	ND	ND	ND	ND	ND	1.4 J	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylene	5	5	2.6	ND	ND	ND	ND	ND	ND	0.57 J	ND	ND	ND	ND	ND	ND	ND	ND

Constituent	2003 BOD Remediation Goal <sup>(1)</sup>	2013 Proposed Cleanup Goal <sup>(2)</sup>	SV6															
			12/23/2006	1/29/2006 (C)	6/18/2006	8/28/2006	10/30/2006	3/7/2007	6/18/2007	8/18/2007	12/13/2007	3/17/2008	6/24/2008	8/26/2008	12/15/2008	3/24/2009	6/15/2009	10/19/2009
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	2.8	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
From 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	10	50	3.4	4.5	2.1	3.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylene	5	5	4.7	7.8	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:  
ND = not detected above laboratory detection limit  
C = corrected to year 2017 concentration  
J = value in parentheses is in micrograms per liter (ug/L)  
All values presented in micrograms per liter (ug/L)  
BOD values reported at exceed the cleanup criteria. Prior to 2014, results are compared to the 2013 Proposed Cleanup Goal.  
SV6 Well is a Superfund site.  
SV6 Well is a Superfund site.  
SV6 Well is a Superfund site.

(1) 2003 BOD Remediation Goal taken from the Plant Operations and Maintenance Manual for the Site Vapor Intrusion Mitigation System (February 2007) prepared by Terra Tech Inc.  
(2) 2013 Proposed Cleanup Goal taken from the Performance and Monitoring Evaluation of the Air Sampling and Vapor Intrusion System, Site 7 - Former Fuel Depot, New York Independent Storage Plant, Calverton, New York prepared by Terra Tech Inc. November 2011.

**Table 5B**  
**Summary of Historical Groundwater Analytical Results - SVE Wells**  
**NWIRP Calverton Site 7**  
**Calverton, New York**

[illegible]

Coilfastant	2005-2009 Remediation Goal <sup>a</sup>	2011 Targeted Outcome Goal <sup>a</sup>	SVS																				10/1/2013
			1/20/2006	6/15/2006	8/15/2006	10/30/2006	3/8/2007	6/26/2007	9/18/2007	12/10/2007	3/17/2008	6/23/2008	9/8/2008	12/13/2008	3/5/2009	12/14/2009	3/1/2010	12/1/2010	4/14/2011	11/5/2011	3/12/2012	6/2/2013	
	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene																							
Chlorobenzene	5	5	61.3	ND	1.2	ND	2.0	ND	ND	ND	3.6	ND	ND	4.7	ND	1.8	ND	0.371	ND	ND	ND	ND	ND
From 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetaldehyde	10	50	48.5	ND	2.9	ND	3.6	ND	ND	ND	2.2	ND	ND	4.2	ND	3.5	ND	ND	ND	ND	5.0	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
End Xylene	5	5	294	ND	7.3	ND	24.9	ND	ND	ND	12.4	ND	0.431	ND	8.7	4.5	ND	ND	ND	ND	ND	ND	ND

**NOTES**

(ID) – test detected above laboratory detection limit  
GP – qualified as per PM 2017 event (L1 quality)  
N values presented as average per lot (log<sub>10</sub>L)  
DIL – dilution factor used to extract the clean-up plate.  
TVC – total-vapor extraction  
VLEP – Very Low Exposure Potential  
© 2020 RND Remediation Guide taken from the Field Operations and Maintenance Manual for Soil Vapor Extraction-Air Squeeze Systems (February 2017) prepared by Tetra Tech LLC, Inc.

Table 5B  
Summary of Historical Groundwater Analytical Results - SVE Wells  
North Creek /  
Cohasset, New York

Contaminant	2003 RSD Remediation Goal <sup>1</sup>	2013 Proposed Remediation Goal <sup>2</sup>	SV9																			12/12/2013		
			12/25/2004	4/15/2004	8/12/2004	10/04/2004	3/7/2005	6/13/2005	9/16/2005	8/31/2005	3/13/2006	6/23/2006	9/8/2006	12/15/2006	3/24/2007	12/14/2007	3/1/2008	12/13/2008	4/14/2011	11/8/2011	3/23/2012		12/5/2012	4/3/2013
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.311	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Contaminant	2003 RSD Remediation Goal <sup>1</sup>	2013 Proposed Remediation Goal <sup>2</sup>	SV10																				
			1/13/2006	6/17/2006	8/20/2006	10/04/2006	3/7/2007	6/13/2007	9/16/2007	12/17/2007	3/17/2008	6/23/2008	9/8/2008	12/15/2008	3/24/2009	12/14/2009	3/1/2010	12/11/2010	4/14/2011	11/8/2011	3/23/2012	12/5/2012	4/3/2013
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	21.2	ND	ND	ND	8.871	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note:

ND = not detected above laboratory detection limit

NSP = not specified as per Feb 2017 event (U) guidelines

J = Estimated value

All values presented in this report are for the 2013 Proposed Remediation Goal. Beginning in 2014, results are compared to the 2013 Proposed Remediation Goal.

SV9 = Volatile Organic Compounds

SV10 = Semi-Volatile Organic Compounds

NSP = Not Specified

(1) 2003 RSD Remediation Goal values from the Remediation and Monitoring Manual for the Vapor Extraction Air Stripping System (February 2003) prepared by Tetra Tech LLC for

(2) 2013 Proposed Remediation Goal values from the Remediation and Monitoring Manual for the Vapor Extraction Air Stripping System (February 2013) prepared by Tetra Tech LLC for

(3) 2013 Proposed Remediation Goal values from the Remediation and Monitoring Manual for the Vapor Extraction Air Stripping System (February 2013) prepared by Tetra Tech LLC for

Table 5B  
Summary of Historical Groundwater Analytical Results - SVE Wells  
NYDEC Closures Site 7  
Crown Point, New York

Constituent	2010 RCD Remediation Goal <sup>1</sup>	2011 Proposed Remediation Goal <sup>2</sup>	SVI1																2012 Remediation Goal <sup>3</sup>
			3/30/2006	6/19/2006	8/29/2006	10/31/2006	5/5/2007	6/19/2007	8/19/2007	12/19/2007	3/19/2008	6/19/2008	8/19/2008	10/19/2008	5/24/2009	12/16/2009	3/2/2010	12/16/2010	
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	2.5	ND	1.7	ND	0.31J	ND	ND	ND	1.6	1.2	ND	2.7	0.47J	1.4	1.4	0.87J	ND
Fluorene	5	5	188	ND	198	169	12	37.6	ND	21	156	112	92	86.7	54.1	151	199	103	249.3
Naphthalene	10	50	14.5	ND	14.2	11.8	ND	1.41	ND	1.01	15	11.8	11.4	27.2	5.1	9.4	6.1	2.2J	19.8
Toluene	5	5	3.7	ND	2.2	2.6	ND	0.64J	0.39J	ND	2.8	3.2	2.1	5.9	0.78J	1.6	3.4	2.5	ND
Total Xylenes	5	5	28.8	ND	17.4	18.3	ND	3.3	3.2	1.31	24	14.2	12.8	40.5	7.7	16.1	19.1	9.8	56.9

Constituent	2010 RCD Remediation Goal <sup>1</sup>	2011 Proposed Remediation Goal <sup>2</sup>	SVI2																2012 Remediation Goal <sup>3</sup>
			3/2/2006	6/19/2006	8/29/2006	10/31/2006	5/5/2007	6/19/2007	8/19/2007	12/19/2007	3/19/2008	6/19/2008	8/19/2008	10/19/2008	5/24/2009	12/16/2009	3/2/2010	12/16/2010	
Benzene	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	24.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	15.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note:

ND = not detected above laboratory detection limit

ND\* = qualified as per PAH 2017 event (12/1/2017)

J = Estimated Value

ND\* = not detected above laboratory detection limit

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Table 5B  
Summary of Historical Groundwater Analytical Results - 5YE Wells  
NWRR Calumet Site 7  
Calumet, New York

Constituent	2003 RSD Remediation Goal <sup>(1)</sup>	5Y13												2013 Proposed Remediation Goal <sup>(2)</sup>	2013 RSD Remediation Goal <sup>(3)</sup>
		3/20/2004	6/19/2004	9/29/2004	12/12/2004	3/20/2005	6/19/2005	9/29/2005	12/12/2005	3/20/2006	6/19/2006	9/29/2006	12/12/2006		
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	87.7	63.9	38.5	ND	28.9	24.4	25.8	14.7	35.1	ND	ND	ND	ND
Form 113	5	5	1.4	ND	ND	ND	0.601	0.351	0.351	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	74.5	58.5	24.4	2.2	14.4	15.4	15.4	7.9	23.4	14.8	14.1	9.3	19.2
Toluene	5	5	17.1	27.9	15.8	ND	12.2	9.8	18.3	4.7	18.3	4.7	18.3	4.7	18.3
Total Xylenes	5	5	192.8	113.8	101.8	ND	93.2	88.8	86.3	65.9	101.8	74.9	101.8	65.9	101.8

Constituent	2003 RSD Remediation Goal <sup>(1)</sup>	5Y14												2013 Proposed Remediation Goal <sup>(2)</sup>	2013 RSD Remediation Goal <sup>(3)</sup>
		6/20/2007	9/29/2007	12/12/2007	3/20/2008	6/19/2008	9/29/2008	12/12/2008	3/20/2009	6/19/2009	9/29/2009	12/12/2009	3/20/2010		
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	5	3.91	4.41	0.7	1.1	1.1	0.23	ND	0.23	ND	0.23	ND	ND	ND
Form 113	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	50	5.91	5.8	4.3	5.2	1.8	1.81	ND	1.41	ND	1.41	ND	ND	ND
Toluene	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5	5	11.3	11.9	13.3	6.8	23.1	ND	3.9	ND	ND	ND	ND	ND	ND

Notes:

ND = not detected above laboratory detection limit

(1) RSD = rounded up to the next 10% (10% greater)

(2) Remediation goal

(3) Remediation goal

Red values equal or exceed the cleanup criteria. Prior to 2014, results are compared to the 2003 RSD Remediation Goal. Beginning in 2014, results are compared to the 2013 Proposed Remediation Goal.

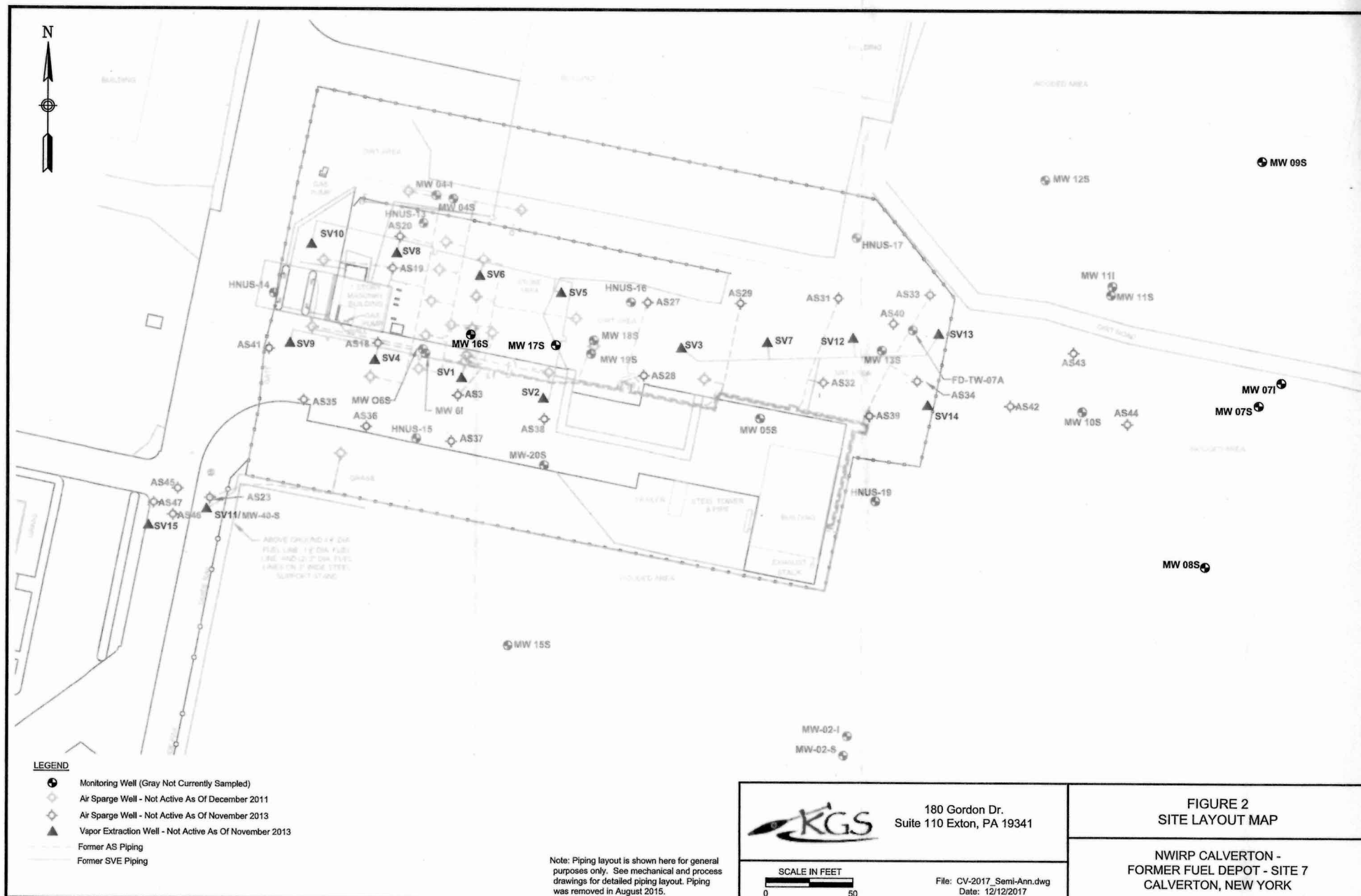
5YE = soil vapor emissions

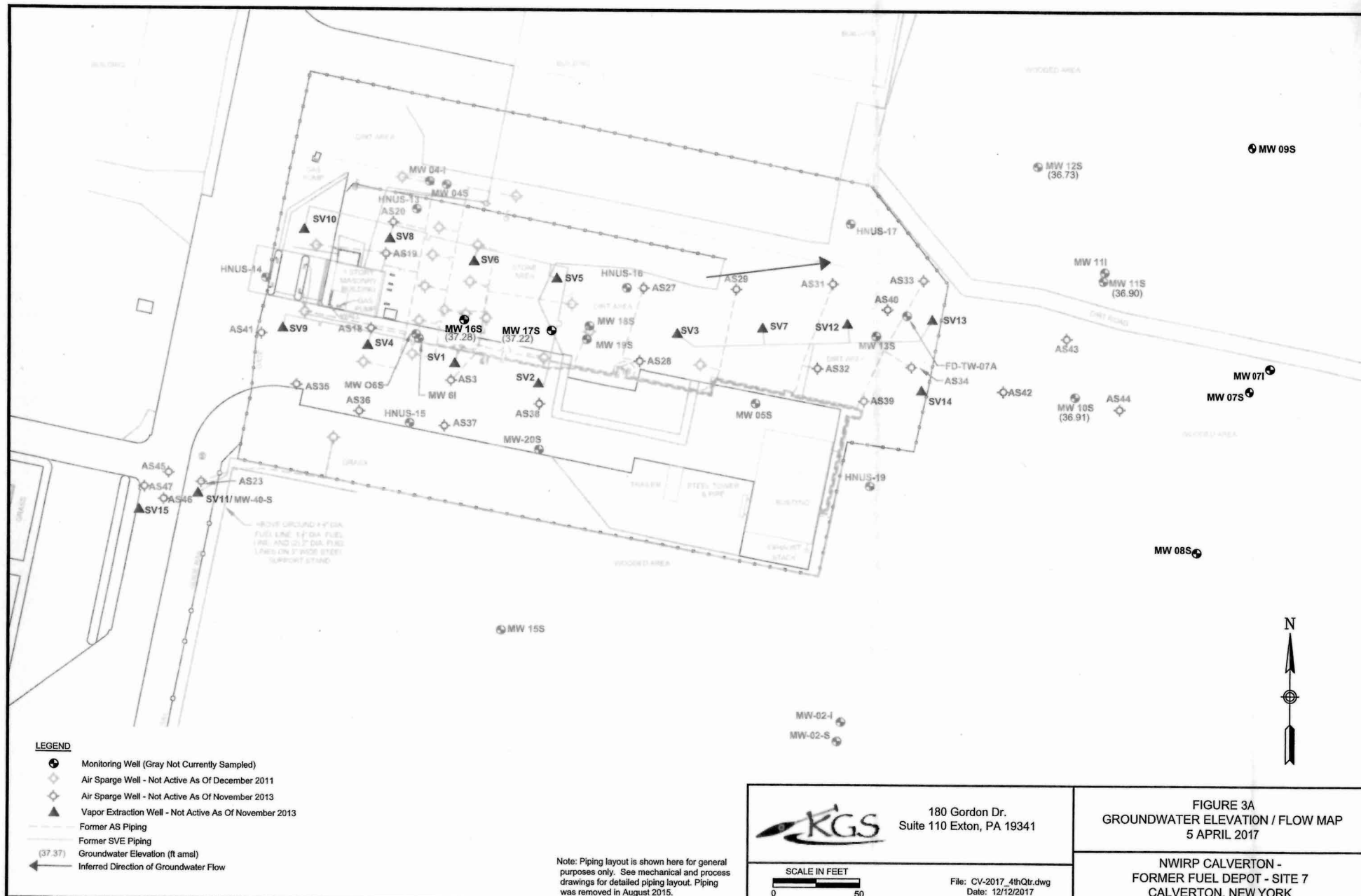
NWRR = New York Region Industrial Reserve Fund

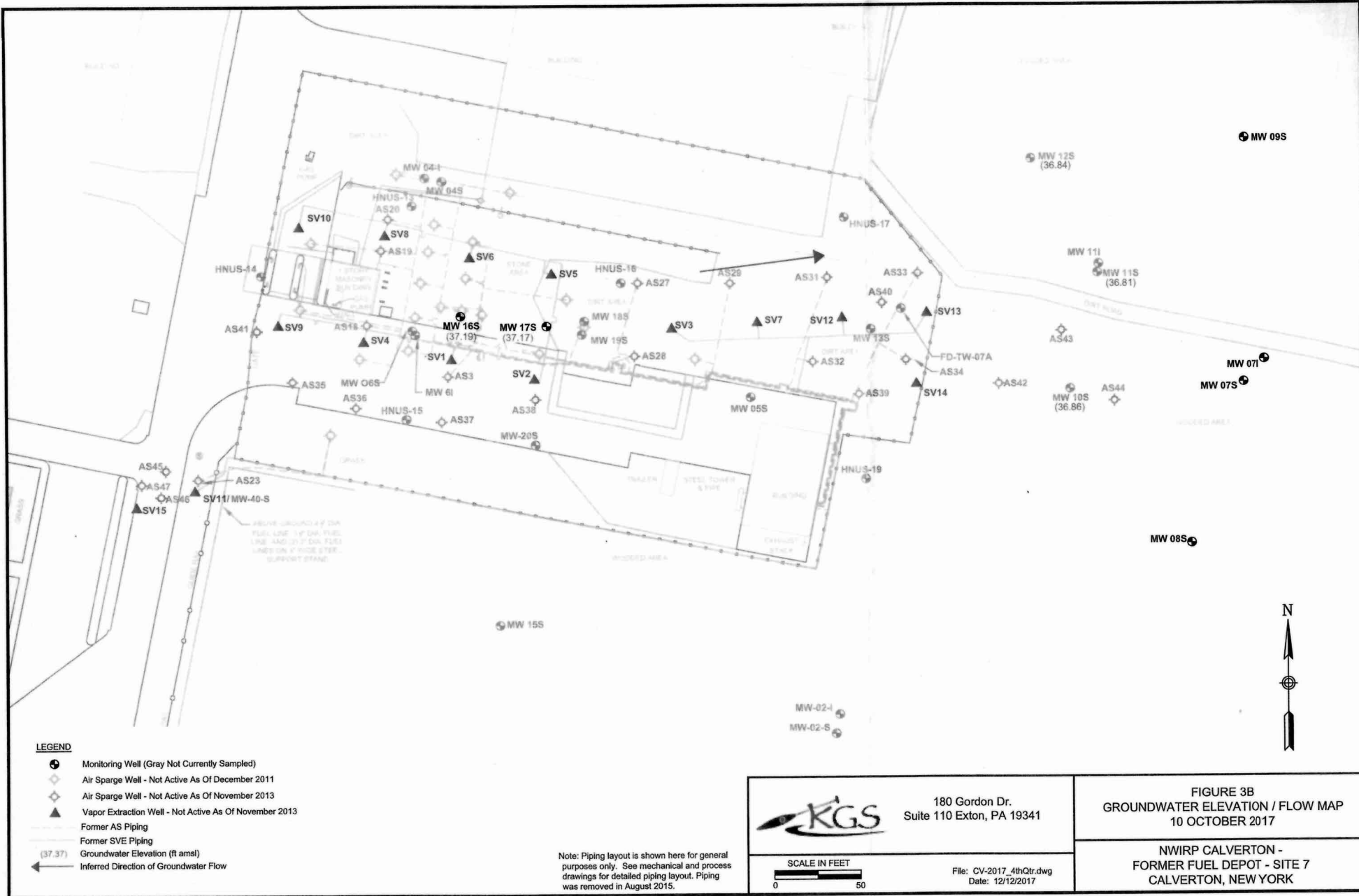
(1) 2003 RSD Remediation Goal values from the First Operations and Maintenance Manual for Soil Vapor Extraction/Soil Remediation System (February 2007) prepared by Tetra Tech LLC, Inc.

(2) 2013 Proposed Remediation Goal values from the Performance and Monitoring Evaluation of the Air Sampling/Vapor Extraction System, Site 7 - Former Fuel Depot, New York Region Industrial Reserve Fund, Calumet, New York prepared by Tetra Tech in November 2013.









MW16S	12/9/2013	3/26/2014	6/18/2014 (SAMPLE/DUP)	9/24/2014	12/16/2014	3/18/2015	6/24/2015	9/17/2015	12/3/2015 (SAMPLE/DUP)	3/24/2016	10/6/2016	4/6/2017	10/11/2017 (SAMPLE/DUP)
Benzene	ND	ND	ND / ND	ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND / ND
Toluene	0.25 J	ND	0.22 J / ND	ND	ND	ND	ND	ND	0.21 J / 0.20 J	ND	ND	ND	ND / ND
Ethylbenzene	16.9	9.8	17 / 14	6.6	12	5.8	14	5.4	12 / 9.6	22	36	13	15 / 17
Total Xylenes	64.1	9.4	26 / 23	15	4.3 J	13	36	14	23.1 / 16 J	23	42	5.0 J	9.2 J / 10.7 J
Freon 113	ND	ND	ND / ND	1.1 J	5.2	0.83 J	ND	0.41 J	ND / 0.51 J	ND	2.3 J	1.2 J	ND / ND
Naphthalene	14.3 J	8.7	14 / 13	7.0	2.2 J	5.6	12	5.1	12 / 12	13	55	6.1	9.0 / 10
2-Methylnaphthalene	ND	1.2 J	7.3 J / 3.6 J	6.7 J	1.2 J	4.4 J	9.1 J	9.6	11 / 11	3.0 J	16	ND	ND / 3.2 J
Total Lead	41	ND	1.8 J / 1.1 J	ND	3.3 J	ND	ND	ND	ND / ND	ND	1.1 J	2.2 J	ND / ND

MW09S	9/16/2015	12/2/2015	3/24/2016	10/5/2016	4/5/2017	10/10/2017
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND
Freon 113	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND
Total Lead	ND	ND	ND	ND	ND	ND

MW071	9/16/2015	12/2/2015	3/23/2016	10/5/2016	4/5/2017	10/12/2017
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	3.3	ND
Freon 113	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	5.5	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND
Total Lead	ND	ND	ND	ND	ND	ND

MW07S	9/16/2015	12/2/2015	3/23/2016	10/5/2016	4/5/2017	10/10/2017
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND
Freon 113	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND
Total Lead	ND	ND	ND	ND	ND	ND

MW08S	9/16/2015	12/2/2015	3/24/2016	10/8/2016	4/5/2017	10/10/2017
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND
Freon 113	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND
Total Lead	ND	ND	ND	ND	ND	ND

MW17S	12/10/2013	3/26/2014	6/18/2014	9/24/2014 (SAMPLE/DUP)	12/16/2014	3/18/2015	6/24/2015	9/17/2015	12/3/2015	3/24/2016	Oct. 2016	4/6/2017	10/10/2017
Benzene	ND	ND	ND	ND / ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Toluene	0.25 J	0.20 J	0.21 J	0.20 J / 0.21 J	ND	ND	ND	ND	0.20 J	ND	NS	ND	ND
Ethylbenzene	7.1	17	22	12 / 12	22	11	9.5	17	24	50	NS	44	77
Total Xylenes	10.3	36	38	30 / 37	69	23	30	50	31 J	52	NS	100	211 J
Freon 113	ND	ND	ND	ND / ND	ND	0.38 J	0.83 J	2.0 J	ND	ND	NS	ND	ND
Naphthalene	22.7 J	41	40	28 J / 32	36	17	38	27	55	41	NS	67	30
2-Methylnaphthalene	ND	5.0 J	9.4 J	23 / 22	8.3 J	ND	23	27	23	24	NS	32	5.1 J
Total Lead	18	13.1	10.8	6.0 / 6.3	3.7 J	2.6 J	2.8 J	ND	ND	ND	NS	2.4 J	ND

#### 2013 Proposed Closeout Goals (ug/L)

Benzene	5
Toluene	5
Ethylbenzene	5
Total Xylenes	5
Freon 113	5
Naphthalene	50
2-Methylnaphthalene	50
Total Lead	15

#### Legend

- Monitoring Well (Gray Not Currently Sampled)
- Air Sparge Well - Not Active As Of December 2011
- Air Sparge Well - Not Active As Of November 2013
- Vapor Extraction Well - Not Active As Of November 2013
- Former AS Piping
- Former SVE Piping

#### Notes:

- DUP - Duplicate Sample
- NS - Not sampled due to the presence of LNAPL
- ND - Not detected above laboratory detection limit (DL).
- J - Estimated value
- All values presented in micrograms per liter (ug/L).
- Bold values indicate detections. Shading indicates detections in exceedance of the 2013 Proposed Closeout Goal.

Note: Piping layout is shown here for general purposes only. See mechanical and process drawings for detailed piping layout. Piping was removed in August 2015.



180 Gordon Dr. Suite 110  
Exton, PA 19341

SCALE IN FEET  
0 50

File: CV-2017.dwg  
Date: 11/2/2017

FIGURE 4  
GROUNDWATER CONCENTRATION MAP  
MONITORING WELLS - OCT 2017 SEMI-ANNUAL  
DECEMBER 2013 - OCTOBER 2017

NWIRP CALVERTON -  
FORMER FUEL DEPOT - SITE 7  
CALVERTON, NEW YORK



SV4	12/12/2013	3/27/2014	6/18/2014	9/24/2014	12/16/2014	3/18/2015	6/24/2015 (SAMPLE/DUP)	9/17/2015	12/3/2015	3/23/2016	10/6/2016 (SAMPLE/DUP)	4/6/2017	10/11/2017
Benzene	ND	ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND / ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND / ND	ND	ND
Ethylbenzene	ND	1.9	1.7 J	4.6 J	5.2	8.2	8.7 / 8.8	11	6.9	4.9 J	12 / 12	6.1	7.6
Total Xylenes	5.0	2.5	1.6 J	11	14	29	43 / 43	83	41	25	103 / 99	46	76
Freon 113	ND	ND	0.45 J	2.6 J	0.41 J	0.77 J	1.6 J / 1.4 J	1.0 J	0.44 J	ND	5.8 / 6.4	0.84 J	2.10 J
Naphthalene	17.4 J	7.0	7.1	14	11	7.4	9.3 / 11	12	5.3	ND	10.1 / 5.9 J	19	16
2-Methylnaphthalene	ND	6.7 J	4.3 J	11	4.3 J	5.9 J	7.7 J / 7.5 J	11	6.6 J	ND	4.6 J / 4.2 J	ND	9.7
Total Lead	2.5	ND	1.1 J	ND	0.906 J	ND	ND / ND	ND	ND	ND	5.0 J / ND	3.6 J	ND

SV13	12/11/2013	3/26/2014	6/18/2014	9/24/2014	12/16/2014 (SAMPLE/DUP)	3/17/2015	6/24/2015	9/16/2015	12/2/2015	3/23/2016	10/5/2016	4/5/2017 (SAMPLE/DUP)	10/11/2017
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	1.4	0.89 J	1.1 J	0.25 J / 0.21 J	1.0 J	0.72 J	0.30 J	ND	0.33 J	ND	ND	ND
Ethylbenzene	0.40 J	8.7	8.5	9.2	6.2 / 6.2	15	7.9	6.1	1.8 J	12	3.2 J	3.9 J / 4.4 J	12
Total Xylenes	2.7 J	23	18	25	13 / 13	28	18	17	2.7 J	22	4.2 J	11 / 12	56
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	4.4	6.6	7.0	4.0 J / 4.8 J	7.5	6.6	4.9 J	ND	ND	0.70 J	5.0 J / 5.8	15
2-Methylnaphthalene	ND	ND	1.0 J	9.7	ND / ND	ND	ND	ND	ND	ND	ND	1.2 J / 15 J	ND
Total Lead	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND

SV2	12/12/2013 (SAMPLE/DUP)	3/27/2014	6/18/2014	9/24/2014	12/16/2014 (SAMPLE/DUP)	3/18/2015 (SAMPLE/DUP)	6/24/2015	9/17/2015	12/3/2015	3/23/2016 (SAMPLE/DUP)	10/6/2016	4/6/2017	10/10/2017
Benzene	ND / ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1.4 / 1.4	0.77 J	1.0 J	1.6 J	1.2 J	0.98 J / 0.88 J	1.4 J	1.4 J	ND	ND / 0.38 J	ND	ND	ND
Ethylbenzene	98.9 / 102	140	130	140	160	160 / 170	210	220	310	210 / 170	390	98	120
Total Xylenes	645 J / 626	275	392	726	838	921 / 866	1282	1630	1443	510 J / 339 J	1,949	356	785
Freon 113	ND / ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	28.2 J / 29.6 J	24	26	37	33	33 / 37	36	51	71	38 / 41	66	23	33
2-Methylnaphthalene	20.2 / 20.4	42	58	83	70	60 / 62	56	69	ND	3.4 J / 3.5 J	ND	ND	21
Total Lead	26 / 33	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND / ND	ND	3.0 J	ND

SV15	12/12/2013	3/27/2014	6/18/2014	9/24/2014	12/16/2014	3/18/2015	6/24/2015	9/17/2015	12/2/2015	3/23/2016	10/5/2016	4/6/2017	10/11/2017
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	0.77 J	0.63 J	0.39 J	0.40 J	ND	ND	ND	ND	ND	0.62 J	ND	1.4 J	2.6 J
Naphthalene	ND	1.2	ND	ND	0.63 J	ND	ND	0.27 J	ND	ND	ND	ND	0.67
2-Methylnaphthalene	9.8	9.0 J	ND	1.4	4.0 J	ND	ND	ND	ND	3.4 J	ND	ND	ND
Total Lead	1.1 J	ND	1.7 J	ND	ND	15.4	ND	ND	ND	ND	ND	ND	ND

SV11/MW405	12/12/2013	3/27/2014 (SAMPLE/DUP)	6/18/2014	9/24/2014	12/16/2014	3/18/2015	6/24/2015	9/17/2015 (SAMPLE/DUP)	12/2/2015	3/23/2016	10/5/2016	4/6/2017	10/11/2017
Benzene	ND	ND / ND	ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND	ND
Toluene	3.2 J	0.64 J / 0.48 J	0.28 J	0.78 J	ND	ND	0.27 J	0.47 J / 0.33 J	0.21 J	0.24 J	ND	ND	ND
Ethylbenzene	1.8 J	1.2 / 0.86 J	0.27 J	0.54 J	0.21 J	0.27 J	1.7 J	0.93 J / 0.68 J	0.36 J	0.24 J	0.50 J	ND	ND
Total Xylenes	9.1 J	8.5 / 6.8	1.4 J	5.9 J	2.0 J	1.2 J	1.7 J	10.4 J / 7.5 J	2.8 J	1.4 J	2.2 J	0.24 J	1.77 J
Freon 113	137	52 J / 36 J	31	32	15	8.8	11	38 J / 28 J	15	11	3.9 J	4.2 J	2.6 J
Naphthalene	23.6 J	9.1 / 7.9	ND	6.9	2.6 J	ND	ND	9.6 / 7.3	ND	ND	4.3 J	ND	2.7 J
2-Methylnaphthalene	ND	2.6 J / 2.5 J	ND	ND	ND	ND	ND	3.7 J / 3.6 J	1.1 J	ND	ND	ND	ND
Total Lead	9.5	ND / ND	ND	ND	ND	ND	ND	ND / ND	ND	ND	ND	ND	ND

- Legend**
- Monitoring Well (Gray Not Currently Sampled)
  - Air Sparge Well - Not Active As Of December 2011
  - Air Sparge Well - Not Active As Of November 2013
  - Vapor Extraction Well - Not Active As Of November 2013
  - Former AS Piping
  - Former SVE Piping

**Notes:**  
 DUP - Duplicate Sample  
 ND - Not detected above laboratory detection limit (DL).  
 J - Estimated value  
 All values presented in micrograms per liter (ug/L).  
 Bold values indicate detections. Shading indicates detections in exceedance of the 2013 Proposed Closeout Goal.

2013 Proposed Closeout Goals (ug/L)	
Benzene	5
Toluene	5
Ethylbenzene	5
Total Xylenes	5
Freon 113	5
Naphthalene	50
2-Methylnaphthalene	50
Total Lead	15

Note: Piping layout is shown here for general purposes only. See mechanical and process drawings for detailed piping layout. Piping was removed in August 2015.



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Exton, PA 19341

SCALE IN FEET  
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File: CV-2017.dwg  
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**FIGURE 5**  
 GROUNDWATER CONCENTRATION MAP  
 SVE WELLS - OCT 2017 SEMI-ANNUAL  
 DECEMBER 2013 - OCTOBER 2017

NWIRP CALVERTON -  
 FORMER FUEL DEPOT - SITE 7  
 CALVERTON, NEW YORK



**APPENDIX A**  
**FIELD LOGS AND**  
**CHAIN OF CUSTODY DOCUMENTATION**

**APRIL 2017**



Date: 04/25/17



### Groundwater Level Measurement Sheet

Project Site: NWIRP Calverton Site 7

Location: Calverton, NY

Field Crew: WLA, RH

Water Level Meter: Solinst

Weather: ~~100%~~ 50% cloudy

Time of Low Tide: N/A

Time of High Tide: N/A

Well ID	Time	Depth to Water (ft bTOC)	Total Depth of Well (ft bTOC)	Comments
SV-2	900	<del>19.11</del> 19.53	24.04	4"
SV-4	905	19.93	30.24	4"
SV-11/MW-40S	910	17.92	29.20	2"
SV-13	915	19.91	28.57	4"
SV-15	920	16.81	26.64	2"
MW-07S	925	18.84	22.74	4"
MW-07I	930	17.98	44.04	4"
MW-08S	935	18.27	22.48	4"
MW-09S	940	17.87	22.64	4"
MW-10S	1520	19.90	22.82	4" - Gauge only
MW-11S	1525	18.34	28.20	2" - Gauge only
MW-12S	1530	18.81	28.74	2" - Gauge only
MW-16S	1535	20.74	25.87	2"
MW-17S	1540	20.08	25.45	2"

Signature: \_\_\_\_\_

Date: 4/5/17



### Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Date: 04/5/17

Weather: 50°

Calibrated By: WJA

Instrument: YSI 556

Serial Number: 07F100307

Parameters	Morning Calibration	Cal. Temperature °C	Afternoon Cal. Check	Comments
	Time: <u>800</u>		Time: <u>1630</u>	
Conductivity 1413 ( $\mu\text{S}/\text{cm}^\circ$ )	<u>1413</u>	<u>11.65</u>	<u>1413</u>	
pH (7)	<u>7.00</u>	<u>-</u>	<u>6.98</u>	
pH (4)	<u>4.02</u>	<u>-</u>	<u>4.01</u>	
pH (10)	<u>10.00</u>	<u>-</u>	<u>10.03</u>	
ORP 240 (mv)	<u>240.1</u>	<u>-</u>	<u>239.2</u>	
Dissolved Oxygen (%)	<u>100.1%</u>	<u>-</u>	<u>101.3%</u>	
Zero Dissolved Oxygen (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	
Barometric Pressure (mmHg)	<u>-</u>	<u>-</u>	<u>-</u>	
	<u>-</u>	<u>-</u>	<u>-</u>	

pH Check (Every 3 hrs): Time: \_\_\_\_\_  
Standard: NA  
(NJ only) Reading: \_\_\_\_\_

Time: \_\_\_\_\_  
Standard: NA  
Reading: \_\_\_\_\_

Time: \_\_\_\_\_  
Standard: NA  
Reading: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: 4/5/17



### Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Date: 04/26/17

Weather: Heavy Rain

Calibrated By: VBA

Instrument: YSI 556

Serial Number: 07F100307

Parameters	Morning Calibration Time: <u>730</u>	Cal. Temperature °C	Afternoon Cal. Check Time: <u>1600</u>	Comments
Conductivity 1413 ( $\mu\text{S}/\text{cm}^\circ$ )	<u>1413</u>	<u>12.03°</u>	<u>1414</u>	
pH (7)	<u>6.97</u>	<u>-</u>	<u>7.03</u>	
pH (4)	<u>4.03</u>	<u>-</u>	<u>4.01</u>	
pH (10)	<u>10.02</u>	<u>-</u>	<u>9.97</u>	
ORP 240 (mv)	<u>240.3</u>	<u>-</u>	<u>240.1</u>	
Dissolved Oxygen (%)	<u>100.0%</u>	<u>-</u>	<u>99.7%</u>	
Zero Dissolved Oxygen (mg/L)	<u>-</u>		<u>-</u>	
Barometric Pressure (mmHg)	<u>-</u>		<u>-</u>	
	<u>-</u>		<u>-</u>	

pH Check (Every 3 hrs): Time: \_\_\_\_\_  
Standard: NA  
(NJ only) Reading: \_\_\_\_\_

Time: \_\_\_\_\_  
Standard: NA  
Reading: \_\_\_\_\_

Time: \_\_\_\_\_  
Standard: NA  
Reading: \_\_\_\_\_

Signature: [Signature]

Date: 4/6/17

# H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: SV-13

Date: 04/05/17

Sampler: VGA

PID (ppm) ---



Start Time: 1530 End Time: 1555

Well Construction: 4" PVC

Depth to Water: 10.91

Well Depth: 28.57

Water Column:                     

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3):                     

Total Volume Removed (gal): 18.0

## Field Testing Equipment

Make	Model	Serial #
YSI	556	
LaMotte	2020	
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1530	1.25	0.25	10.92	15.64	5.96	219	1.84	-277.5	3.32	cl-
1535	↓	↓	↓	15.66	5.98	217	0.60	-277.7	2.01	↓
1540	↓	↓	↓	15.64	5.97	217	0.47	-277.4	1.97	↓
1545	↓	↓	↓	15.67	5.97	219	0.45	-277.9	1.94	↓
1550	↓	↓	↓	15.63	5.96	218	0.43	-277.3	1.96	↓

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1555	SV- 13 -04- 05-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

DUP-1 collected @ 1610  
 MS/MSD collected @ 1555  
 4/5/17

Signature

Date

# H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-07S

Date: 04/05/17

Sampler: 186A

PID (ppm) ---



Start Time: 1020 End Time: 1050

Well Construction: 4" PVC

Depth to Water: 18.84

Well Depth: 22.74

Water Column: 3.90

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 9.0

Total Volume Removed (gal): 10.0

## Field Testing Equipment

Make	Model	Serial #
YSI	556	97F100307
LaMotte	2020	21002
Grundfos	2" Pump	19029
Grundfos	RediFlo 2	

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1020	1.25	0.25 ml/min	19.03	12.04	5.12	48	9.84	-247.6	6.70	clear
1025	↓	↓	↓	12.13	5.12	47	9.50	-251.7	4.81	↓
1030	↓	↓	↓	12.15	5.12	47	9.45	-254.7	4.78	↓
1035	↓	↓	↓	12.13	5.14	47	9.12	-262.7	4.69	↓
1040	↓	↓	↓	12.05	5.15	47	9.09	-264.8	4.69	↓
1045	↓	↓	↓	12.15	5.14	47	9.08	-264.1	4.67	↓

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1050	MW-07S -04-05-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

[Signature]  
 Signature

4/5/17  
 Date

# H&S Environmental, Inc.

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-071

Date: 04/05/17  
 Sampler: UGA  
 PID (ppm) ---



Start Time: 1140 End Time: 1210

### Field Testing Equipment

Well Construction: 4" PVC  
 Depth to Water: 17.98  
 Well Depth: 44.04  
 Water Column: 26.06  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	07F100307
LaMotte Hach	2020-21000	19021
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 52.02/11.45

Total Volume Removed (gal): 54.9/11.45

Time (hh:mm)	Volume Removed (L)	Flow Rate (mL/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm²)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1140	5.92	1.02/11.45	18.04	12.73	5.87	99	0.73	-252.8	0.51	clear
1145	↓	↓	↓	12.94	5.87	99	0.70	-248.7	0.47	↓
1150	↓	↓	↓	12.95	5.87	99	0.65	-236.5	0.43	↓
1155	↓	↓	↓	12.94	5.88	99	0.68	-245.3	0.39	↓
1200	↓	↓	↓	12.94	5.89	99	0.65	-246.9	0.39	↓
1205	↓	↓	↓	12.97	5.88	98	0.67	-243.2	0.38	↓

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1210	MW-071 -04-05-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

EB-01 collected after dem 1235

[Signature]  
 Signature

4/5/17  
 Date

# H&S Environmental, Inc.

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-08S

Date: 04/05/17  
 Sampler: KGS  
 PID (ppm) ---



Start Time: 1255 End Time: 1320

### Field Testing Equipment

Well Construction: 4" PVC  
 Depth to Water: 18.27  
 Well Depth: 22.48  
 Water Column: 4.21  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	07F190307
LaMotte Hach	2020 21002	19029
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 10.0

Total Volume Removed (gal): 10.0

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1255	1.25	2.5	18.33	12.48	4.30	86	7.40	-223.0	6.02	9.0
1300				12.40	4.32	85	7.73	-218.3	4.89	
1305				12.39	4.33	84	7.81	-212.4	4.73	
1310				12.54	4.35	83	7.70	-208.4	4.60	
1315				12.57	4.34	83	7.69	-209.3	4.57	

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1320	MW-08S -04-05-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

[Signature]  
 Signature

4/5/17  
 Date



# H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-09S

Date: 04/05/17  
 Sampler: UGA  
 PID (ppm) ---



Start Time: 1355 End Time: 1420

## Field Testing Equipment

Well Construction: 4" PVC  
 Depth to Water: 17.87  
 Well Depth: 22.64  
 Water Column: 4.77  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	07F100307
LaMotte	2020-2100R	19029
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 100

Total Volume Removed (gal): 100

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm°)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1355	1.25	1.25	17.92	12.46	5.74	97	2.17	-243.6	3.05	410R
1400				12.68	5.74	97	2.01	-240.7	2.79	
1405				12.78	5.78	97	2.19	-241.8	2.74	
1410				12.94	5.78	97	2.16	-243.9	2.70	
1415				12.83	5.76	96	2.18	-245.1	2.68	

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1420	MW-09S -04-05 -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

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 \_\_\_\_\_  
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[Signature]  
 Signature

4/5/17  
 Date

# H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: SV-15

Date: 04/06/17  
 Sampler: 16A  
 PID (ppm) ---



Start Time: 1420 End Time: 1450

## Field Testing Equipment

Well Construction: 2" PVC  
 Depth to Water: 16.81  
 Well Depth: 26.64  
 Water Column: 9.83  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	07E100307
LaMotte	2020	1902A
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 5.0

Total Volume Removed (gal): 5.0

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1420	1.250	125.0	16.62	15.36	6.00	243	12.35	-123.4	5.99	clear
1425				15.40	6.01	238	12.14	-123.6	7.81	
1430				15.42	6.00	236	12.10	-123.7	7.31	
1435				15.47	6.00	237	12.07	-123.9	7.27	
1440				15.48	6.00	236	12.05	-124.1	7.23	
1445				15.46	6.00	236	12.03	-124.3	7.21	

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1450	SV- 15 -04- -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

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[Signature]  
 Signature

4/6/17  
 Date

# H&S Environmental, Inc.

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: SV-11/MW-40S

Date: 04/06/17  
 Sampler: WA  
 PID (ppm) ---



Start Time: 1330 End Time: 1355

### Field Testing Equipment

Well Construction: 2" PVC  
 Depth to Water: 17.92  
 Well Depth: 29.20  
 Water Column: 12.28  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	07F100307
LaMotte	2020 2600	19029
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 6.0  
 Total Volume Removed (gal): 6.0

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1330	1.25	0.25	17.83	15.55	6.23	297	3.29	-128.9	7.85	Clear
1335				15.70	6.20	184	3.30	-128.4	5.41	
1340				15.76	6.19	185	3.30	-127.7	5.21	
1345				15.73	6.19	185	3.27	-127.3	5.19	
1350				15.72	6.19	183	3.26	-127.2	5.17	

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1355	SV- 11 -04- 06 -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

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[Signature]  
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4/6/17  
 Date

## Low Flow/ Low Stress Groundwater Sampling Log



Total Volume Removed (gal): 22.0

Make	Model	Serial #
YSI	556	07F100307
LaMotte Flach	2020 2100R	19029
Grundfos	2" Pump	
Grundfos	RediFlo 2	

4" Screen Volume = 0.65 gal/ft = 2.46 L

4/6/17  
Date

## Low Flow/ Low Stress Groundwater Sampling Log

Date: 04/06/17  
 Sampler: VSA  
 PID (ppm) ---



### Field Testing Equipment

Make	Model	Serial #
YSI	556	07F100307
LaMotte	2100R	19029
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 3.0  
Total Volume Removed (gal): 3.0

[illegible]

Acceptance Criteria:	<0.3ft	3%	±0.1	3%	10%	± 10mv	10%
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1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
10/15	MW-16S -04- 06 -17	40 mL CG	3 x 4 = 12	HCl	Select VOCs
		1L AG	2 x 4 = 8	---	2-methylnaphthalene
		250 mL PL	1 x 4 = 4	HNO3	Lead
	DUP 112 - 15 + MS/MSD for all above parameters				

### Comments

Collect DUP-1, MS/MSD

4/16/17  
Date

# H&S Environmental, Inc.

Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-17S

Date: 04/06/17

Sampler: V6A

PID (ppm) ---



Start Time: 820 End Time: 845

## Field Testing Equipment

Well Construction: 2" PVC  
 Depth to Water: 20.08  
 Well Depth: 25.45  
 Water Column: 5.37  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	07F100307
LaMotte	11.64	2020 21002
Grundfos	2" Pump	19029
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 3.0

Total Volume Removed (gal): 3.0

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
820	1.25	.25	20.08	15.92	6.15	420	0.18	-220.1	0.21	Clear
825	↓	↓	↓	15.43	6.14	420	0.18	-221.3	0.20	↓
830	↓	↓	↓	15.31	6.14	421	0.18	-222.2	0.19	↓
835	↓	↓	↓	15.30	6.13	422	0.18	-223.1	0.19	↓
840	↓	↓	↓	15.33	6.14	423	0.17	-223.0	0.18	↓

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
845	MW-17S -04-06-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

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[Signature]  
 Signature

4/6/17  
 Date

# H&S Environmental, Inc.

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: SV-2

Date: 04/06/17  
 Sampler: R61  
 PID (ppm) ---



Start Time: 915 End Time: 945

### Field Testing Equipment

Well Construction: 4" PVC  
 Depth to Water: 19.53  
 Well Depth: 24.04  
 Water Column: 4.51  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	97F100307
LaMotte Tech	2620.2/100Q	19029
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 8.0

Total Volume Removed (gal): 9.0

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm°)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
915	1.25	0.25	19.97	14.00	5.97	224	1.28	-48.4	146	Slightly
920	↓	↓	↓	16.31	5.81	239	0.56	-149.7	56.7	↓
925	↓	↓	↓	16.49	5.82	243	0.50	-219.7	43.7	↓
930	↓	↓	↓	17.03	5.83	250	0.48	-227.4	40.3	↓
935	↓	↓	↓	17.03	5.84	252	0.47	-229.3	39.3	↓
940	↓	↓	↓	17.06	5.86	252	0.46	-230.1	39.1	↓

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
945	SV- 2 -04-06-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

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 \_\_\_\_\_  
 \_\_\_\_\_

g/m  
 Signature

4/6/17  
 Date



**OCTOBER 2017**

Date: 10/10/17



# Groundwater Level Measurement Sheet

Project Site: NWIRP Calverton Site 7

Location: Calverton, NY

Field Crew: E. Seiler + S. Georgas

Water Level Meter: Solinst

Weather: \_\_\_\_\_

Time of Low Tide: N/A

Time of High Tide: N/A

Well ID	Time	Depth to Water (ft bTOC)	Total Depth of Well (ft bTOC)	Comments
SV-2	11:47	20.02	23.45	4"
SV-4	11:53	20.06	29.94	4"
SV-11/MW-40S	11:58	17.98	29.20	2"
SV-13	11:42	19.91	28.61	4"
SV-15	12:04	14.89	26.65	2"
MW-07S	13:10	18.96	22.95	4"
MW-07I	08:15 on 10/13	18.14	43.70	4"
MW-08S	12:55	18.28	22.21	4"
MW-09S	15:00	17.95	22.21	4"
MW-10S	12:21	19.95	22.85	4" - Gauge only
MW-11S	12:31	18.43	28.25	2" - Gauge only
MW-12S	12:26	18.70	28.96	2" - Gauge only
MW-16S	11:51	20.83	25.74	2"
MW-17S	11:49	20.13	25.43	2"

Signature: Erich Seiler

Date: 10/16/2017



### Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Date: 10/10/17

Weather: 72°F - Sunny

Calibrated By: S. GEORGES

Instrument: YSI 556

Serial Number: \_\_\_\_\_

12M100102

Parameters	Morning Calibration Time: <u>1035</u>	Cal. Temperature °C	Afternoon Cal. Check Time: _____	Comments
Conductivity 1413 (µS/cm²)	1369 → 1413	25.86		EXP: 12/31/2017 Lot: 66L243
pH (7)	6.93 → 7.00	27.68		Exp: 12/31/2018 Lot: 66L570
pH (4)	3.96 → 4.00	25.40		Exp: 12/31/2018 Lot: 66L1260
pH (10)	9.98 → 10.00	25.86		Exp: 12/31/2018 Lot: 66L207
ORP 240 (mv)	236.4 → 240.0	26.85		Exp: 05/31/2001 Lot: 0207
Dissolved Oxygen (%)	74.2 → 99.1	29.96		Air Cal.
Zero Dissolved Oxygen (mg/L)				
Barometric Pressure (mmHg)	760.			

pH Check (Every 3 hrs): Time: \_\_\_\_\_

Standard: NA

(NJ only)

Reading: \_\_\_\_\_

Time: \_\_\_\_\_

Standard: NA

Reading: \_\_\_\_\_

Time: \_\_\_\_\_

Standard: NA

Reading: \_\_\_\_\_

Signature: \_\_\_\_\_

Erich Luv

Date: \_\_\_\_\_

10/16/2017



### Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Date: 10/10/17

Weather: \_\_\_\_\_

Calibrated By: E. Seiler

Instrument: YSI 556  
YSI Pro DDS

Serial Number: 037703

Parameters	Morning Calibration Time: <u>1035</u>	Cal. Temperature °C	Afternoon Cal. Check Time: _____	Comments
Conductivity 1413 (µS/cm²)	<u>1383 → 1413</u>	<u>24.3</u>		
pH (7)	<u>6.87</u> <u>7.01 → 7.00</u>	<u>24.0</u>		
pH (4)	<u>3.88</u> <u>7.00 → 4.00</u>	<u>24.2</u>		
pH (10)	<u>10.01</u>	<u>24.2</u>		
ORP 240 (mv)	<u>229.4 → 240.0</u>	<u>24.4</u>		
Dissolved Oxygen (%)	<u>102.9 → 100</u>	<u>24.4</u>		
Zero Dissolved Oxygen (mg/L)				
Barometric Pressure (mmHg)	<u>782.3</u>			

pH Check (Every 3 hrs): Time:

Standard: NA

(NJ only)

Reading:

Time:

Standard:

NA

Reading:

Time:

Standard:

NA

Reading:

Signature: Erich Seiler

Date: 10/16/2017



## Instrument Calibration Log

Project/Site Name: Calverton Site 7 Date: 10/11/2017

Calibrated By: S. Georges Instrument: YSI 556 MPS

Weather: \_\_\_\_\_

Serial Number: 12M100102

Parameters	Morning Calibration Time: <u>0825</u>	Cal. Temperature °C	Afternoon Cal. Check Time: _____	Comments
Conductivity ( $\mu$ S/cm)	<u>1392 <math>\rightarrow</math> 1413</u>	<u>19.70</u>		
pH (7)	<u>7.04 <math>\rightarrow</math> 7.00</u>	<u>19.95</u>		
pH (4)	<u>3.95 <math>\rightarrow</math> 4.00</u>	<u>19.74</u>		
pH (10)	<u>10.09 <math>\rightarrow</math> 10.01</u>	<u>19.66</u>		
ORP (mV)	<u>251.0 <math>\rightarrow</math> 240.0</u>	<u>19.81</u>		
Dissolved Oxygen (%)	<u>101.0 <math>\rightarrow</math> 100.0</u>	<u>19.34</u>		
Zero Dissolved Oxygen (mg/L)				
Barometric Pressure (mm Hg)	<u>760.</u>			

Signature: Erich Seiber

Date: 10/16/2017



### Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Date: 10/11/17

Weather: cloudy, ~65°F

Calibrated By: E. Seiler

Instrument: YSI <sup>Pro DSS</sup> 550 DSS

Serial Number: 037703

Parameters	Morning Calibration Time: <u>0825</u>	Cal. Temperature °C	Afternoon Cal. Check Time: _____	Comments
Conductivity 1413 (µS/cm²)	1372 → 1413	19.8		
pH (7)	7.16 → 7.00	19.6		
pH (4)	3.99 → 3.98	19.9		
pH (10)	10.08 → 10.00	19.9		
ORP 240 (mv)	246.7 → 240.0	19.8		
Dissolved Oxygen (%)	109.0 → 103.2	18.3		
Zero Dissolved Oxygen (mg/L)				
Barometric Pressure (mmHg)	748.6			

pH Check (Every 3 hrs): Time:

Standard: NA

(NJ only)

Reading:

Time:

Standard:

NA

Reading:

Time:

Standard:

NA

Reading:

Signature: Erich Seiler

Date: 10/11/2017



## Instrument Calibration Log

Project/Site Name: Calverton Site 7 Date: 10/12/2017

Weather: \_\_\_\_\_

Calibrated By: E. Seiler

Instrument: YSI Pro DDS  
556 MPS

Serial Number: ~~037703~~  
12M100102

Parameters	Morning Calibration Time: <u>0715</u>	Cal. Temperature °C	Afternoon Cal. Check Time: _____	Comments
Conductivity (µS/cm)	1.477 → 1.413	18.60		
pH (7)	7.06 → 7.00	19.89		
pH (4)	4.15 → 4.00	19.04		
pH (10)	10.20 → 10.03	18.63		
ORP (mV)	245.2 → 240.0	18.37		
Dissolved Oxygen (%)	114.9 → 100.0	15.96		
Zero Dissolved Oxygen (mg/L)				
Barometric Pressure (mm Hg)	760.			

Signature: Erich Seiler

Date: 10/16/2017





# Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Calibrated By: S. GEORGES

Instrument/Serial Number	200mV	100mV	800mV	10mV	Post-Cal 1-AM (NTU)	Post-Cal 1-PM (NTU)	Post-Cal 10-AM (NTU)	Post-Cal 10-PM (NTU)	Date
	Pre-Cal 20-AM (NTU)	Pre-Cal 10-PM (NTU)	Pre-Cal 10-AM (NTU)	Pre-Cal 10-PM (NTU)					
LaMotte 2020e+									
HACH 2100a	20.1	101	806	9.96					Time: & 10/10/18
HACH 2100a	21.2	106	816	10.1					Time: 1110 & 10/11/18
"	20.4	101	806	9.73					Time: 0910 & 10/12/17
									Time: 0745 &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &

Signature: Erzh Silber

Date: 10/16/2017



# Instrument Calibration Log

Project/Site Name: NWIRP Calverton Site 7

Calibrated By: E. Seiler

Instrument/Serial Number	Pre-Cal 1-AM (NTU)	Pre-Cal 1-PM (NTU)	Pre-Cal 10-AM (NTU)	Pre-Cal 10-PM (NTU)	Post-Cal 1-AM (NTU)	Post-Cal 1-PM (NTU)	Post-Cal 10-AM (NTU)	Post-Cal 10-PM (NTU)	Date
LaMotte 2020e / 2100P Turbiditymeter	20.0 8.40		20.4		—		99.9		10/10/2017
" "	—		29.0		—		100.0		Time: 1106 & 10/11/2017
									Time: 0910 &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &
									Time: &

Signature: Erich Seiler

Date: 10/11/2017

# KOMAN Government Solutions

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: SV-2

Date: 10/10/17  
 Sampler: E. Seiler  
 PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

### Field Testing Equipment

Well Construction: 4" PVC  
 Depth to Water: 17.79  
 Well Depth: \_\_\_\_\_  
 Water Column: \_\_\_\_\_  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	Pro DPS	037703
LaMotte	2020	16060050684
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 31.0

Total Volume Removed (gal): \_\_\_\_\_

*-calibrate* ↑ \*

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm²)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1703	—	1000	20.09	18.0	5.76	223.0	0.61	154.4	6.34	clear
1708	5.0	1000	20.10	17.9	5.67	227.5	0.10	46.5	4.71	11
1713	10.0	1000	20.10	17.7	5.55	233.1	-0.05	-28.2	3.88	11
1723	18.0	1000	20.10	17.0	5.66	240.2	0.60	28.3	7.18	11
1728	15.0	1000	20.10	17.1	5.63	242.6	-0.04	-14.1	4.00	11
1733	20.0	1000	20.10	17.3	5.65	253.0	-0.12	-29.5	2.59	11
1738	25.0	1000	20.10	17.4	5.64	247.1	-0.16	-48.6	1.98	11
1743	30.0	1000	20.10	17.5	5.64	242.2	-0.17	-54.7	2.02	11
1748	35.0	1000	20.10	17.5	5.64	242.1	-0.18	-57.8	2.23	11
1753	40	1000	20.10	17.5	5.65	241.0	-0.19	-60.2	2.63	11

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1755	SV-2-12-15	40 mL CG	3	HCl	Select VOCs
	SV-2-101017	1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

E. Seiler  
 Signature

10/10/2017  
 Date

# Koman Government Solutions, LLC.

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWFP CALVERTON SRS 7  
Location: CALVERTON, NY  
Well ID: SV-4

Date: 10/11/2017  
Sampler: E. Siler & S. Georges  
PID: —



Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

### Field Testing Equipment

Well Construction: 4" PVC; Flush Mount

Make \_\_\_\_\_ Model \_\_\_\_\_ Serial # \_\_\_\_\_

Depth to Water: 19.89'

Well Depth: 29.94'

Water Column: \_\_\_\_\_

Total Volume Removed (gal): \_\_\_\_\_

Volume Required (gal): 78.6L

Dedicated Pump in Well?: No

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min) L/min	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm²)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1240	—	1.38	21.20	16.64	5.92	0.281	1.70	-158.0	—	Clear
1245	6.94		21.20	16.54	5.83	0.274	1.54	-162.3	10.7	"
1255	20.74		21.20	16.77	5.76	0.246	1.18	-160.8	5.87	"
1305	44.54		21.20	16.95	5.68	0.241	0.49	-159.3	4.67	"
1315	58.34		20.14	16.99	5.73	0.263	0.25	-154.1	3.57	"
1325	72.14		20.15	16.99	5.76	0.272	0.15	-162.4	3.59	"
1335	85.94		20.15	16.97	5.78	0.277	0.08	-162.5	2.63	"
1340	99.74	↓	20.15	17.02	5.78	0.277	0.06	-159.7	2.68	"

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ±10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 mL per foot

4" Screen Volume = 0.65 gal/ft or 2.46 L per foot

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1345	SV-4-10117	40mL CG	3	HCl	Select VOCs
		1L AG	2	—	2-methylnaphthalene
		250mL PL	1	HNO <sub>3</sub>	Lead

### Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Erich Siler

Signature

10/16/2017

Date

# KOMAN Government Solutions

## Low Flow/ Low Stress Groundwater Sampling Log



Project: NWIRP Calverton Site 7

Date: 10/ 11 /17

Location: Calverton, NY

Sampler: S. GORGES

Well ID: SV-11/MW-405

PID (ppm) ---

Start Time: 0919 End Time:           

### Field Testing Equipment

Well Construction: 2" PVC

Make YSI Model 556 Serial #           

Depth to Water: 17.86

LaMotte 2020

Well Depth: 29.02

Grundfos 2" Pump

Water Column: 11.16

Grundfos RediFlo 2

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 5.46 gal / 20.66 L

Total Volume Removed (gal):           

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
0919	—	1000	17.90	16.74	5.74	216	0.43	-165.0	12.7	Clear *
0924	5		17.90	16.84	5.33	176	0.48	-159.7	6.33	Clear *
0929	10		17.90	16.93	5.26	125	1.50	-151.6	4.48	Clear *
0934	15		17.90	16.96	5.21	131	1.89	-147.6	4.86	Clear *
0939	20		17.90	16.98	5.21	129	2.15	-145.9	3.46	Clear
0944	25		17.90	16.99	5.24	122	2.25	-144.7	2.20	Clear
0949	30	↓	17.90	17.03	5.25	123	2.30	-143.5	2.42	Clear

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
0949	SV- 11 -10- 11 -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

\* GROUNDWATER CONTAINS BLK. PARTICULATES.

Erin Sub

Signature

10/16/2017

Date

# KOMAN Government Solutions

Low Flow/ Low Stress Groundwater Sampling Log



Project: NWIRP Calverton Site 7  
Location: Calverton, NY  
Well ID: SV-13

Date: 10/ 11 /17  
Sampler: E. Seiler & S. Georges  
PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

## Field Testing Equipment

Well Construction: 4" PVC

Depth to Water: 19.94

Well Depth: 28.35

Water Column: \_\_\_\_\_

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 69 L

Total Volume Removed (gal): \_\_\_\_\_

Make	Model	Serial #
YSI	556	12M160102
LaMotte	2020	B 16060C05684
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm²)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1550	—	1.30	19.98	15.86	6.02	0.307	3.39	-176.4	6.61	clear
1600	13.0	1.30	19.99	15.59	6.00	0.247	1.57	-169.7	20.6	"
1610	26.0	1.30	19.99	15.46	5.96	0.200	2.69	-159.1	10.8	"
1620	39.0	1.30	19.99	15.57	5.92	0.181	3.33	-156.8	13.3	"
1630	52.0	1.30	19.99	15.48	5.92	0.172	3.79	-155.9	0.97	"
1640	65.0	1.30	19.99	15.49	5.91	0.166	4.01	-155.2	13.7	"
1650	78.0	1.00	19.99	15.47	5.91	0.165	4.07	-156.3	9.88	"

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1655	SV- 13 -10- 11 -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Berth Seiler  
Signature

10/11/2017  
Date

# KOMAN Government Solutions

Low Flow/ Low Stress Groundwater Sampling Log



Project: NWIRP Calverton Site 7  
Location: Calverton, NY  
Well ID: SV-15

Date: 10/11/17  
Sampler: E. Seiler  
PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

## Field Testing Equipment

Well Construction: 2" PVC

Depth to Water: 16.92

Well Depth: 26.40

Water Column: \_\_\_\_\_

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 19.1 L

Total Volume Removed (gal): \_\_\_\_\_

Make	Model	Serial #
YSI	-556-	ProDSS 037703
LaMotte	2020	10090C 040372
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
0920	—	600	16.92	17.0	5.74	291.5	0.51	-49.1	36.3	semi-clear
0925	3.0	600	16.93	17.2	5.68	270.7	0.17	-62.7	34.4	" "
0930	6.0	600	16.93	17.4	5.70	240.8	0.47	-63.9	23.9	" "
0935	9.0	600	16.93	17.5	5.77	234.4	0.82	-64.3	14.0	clear
0940	12.0	600	16.93	17.6	5.83	229.5	0.97	-71.8	17.1	" "
0945	15.0	600	16.93	17.6	5.86	225.6	1.22	-73.8	10.5	" "
0950	18.0	600	16.93	17.6	5.88	222.4	1.30	-77.7	—	" "
0955	21.0	600	16.93	17.6	5.90	222.3	1.34	-79.6	5.94	" "

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1000	SV- 15 -10- 11 -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	—	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E. Seiler

Signature

10/11/2017

Date



## Low Flow/ Low Stress Groundwater Sampling Log

Date: 10/10/17  
 Sampler: D. GORDON  
 PID (ppm) ---



### Field Testing Equipment

Make	Model	Serial #
------	-------	----------

YSI 556

LaMotte 2020

Grundfos 2" Pump

Grundfos	RediFlo 2
----------	-----------

Total Volume Removed (gal): 35.0 L

Acceptance Criteria:	<0.3ft	3%	±0.1	3%	10%	± 10mv	10%
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1 gal = 3.79 L

4\* Screen Volume = 0.65 gal/ft = 2.46 L

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1349	MW-07S -10- 10 -17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

---

  
Signature

10-10-17  
Date

# KOMAN Government Solutions

Low Flow/ Low Stress Groundwater Sampling Log



Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-071

Date: 10/12/17  
 Sampler: E. Seiler & S. Georges  
 PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

## Field Testing Equipment

Well Construction: 4" PVC  
 Depth to Water: 17.99 18.14  
 Well Depth: 43.70  
 Water Column: \_\_\_\_\_  
 Dedicated Pump in Well?: No

Make	Model	Serial #
YSI	556	
LaMotte	2020	037702
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Volume Required (gal) (Water Column x factor x 3): 197.0

Total Volume Removed (gal): \_\_\_\_\_

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
0822	10	2000	18.10	12.41	5.43	0.102	0.23	-191.7	11.1	clear
0832	30	2000	18.15	12.45	5.58	0.113	0.13	-194.7	10.8	"
0842	50	2000	18.15	12.46	5.72	0.131	0.12	-203.7	7.21	"
0852	70	2000	18.15	12.43	5.66	0.130	0.20	-200.6	4.81	"
0902	90	2000	18.15	12.46	5.63	0.133	0.21	-199.9	2.42	"
0912	110	2000	18.15	12.46	5.62	0.129	0.04	-197.6	1.65	"
0922	130	2000	18.15	12.45	5.62	0.129	0.02	-197.0	1.17	"
0932	150	2000	18.15	12.46	5.61	0.132	0.02	-196.1	0.90	"
0942	170	2000	18.15	12.47	5.60	0.129	0.02	-195.4	0.77	"
0952	190	2000	18.15	12.49	5.61	0.129	0.02	-195.5	0.71	"
0957	200	2000	18.15	12.48	5.60	0.124	0.01	-195.1	0.59	"

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1000	MW-071-10-12-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

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 \_\_\_\_\_  
 \_\_\_\_\_

Erich Seiler  
 Signature

10/12/2017  
 Date

# KOMAN Government Solutions

Low Flow/ Low Stress Groundwater Sampling Log



Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-085

Date: 10/10/17  
 Sampler: E. Seiler  
 PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

## Field Testing Equipment

Well Construction: 4" PVC

Depth to Water: 18.28

Well Depth: 22.21

Water Column: \_\_\_\_\_

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 35.1 L

Total Volume Removed (gal): \_\_\_\_\_

Make Model Serial #  
 YSI ProDDS 037703  
 Lammotte 2020 100906040372  
 Grundfos 2" Pump  
 Grundfos RediFlo 2

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1300	—	1000	18.30	13.4	4.30	87.1	8.36	234.3	40.2	Clear
1305	5.0	1000	18.28	13.4	3.96	80.8	8.78	269.7	20.1	Clear
1310	10.0	1000	18.30	13.4	3.85	79.7	8.84	285.7	4.98	"
1315	15.0	1000	18.30	13.4	3.83	79.9	8.81	297.6	2.92	"
1320	20.0	1000	18.30	13.4	3.84	79.6	8.81	302.5	1.73	"
1325	25.0	1000	18.30	13.4	3.84	78.8	8.82	307.8	1.66	"
1330	30.0	1000	18.30	13.3	3.84	78.4	8.84	313.5	1.32	"
1335	35.0	1000	18.30	13.4	3.84	78.3	8.81	317.9	1.05	"
1340	40.0									

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.183 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1340	MW-08S -10-10-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

E. Seiler

Signature

10/10/2017

Date

# KOMAN Government Solutions

Low Flow/ Low Stress Groundwater Sampling Log



Project: NWIRP Calverton Site 7  
Location: Calverton, NY  
Well ID: MW-09S

Date: 10/ /17  
Sampler: E. Seiler & S. Georges  
PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

## Field Testing Equipment

Well Construction: 4" PVC

Make	Model	Serial #
YSI	556	
LaMotte	2020	16060C050684
Grundfos	2" Pump	
Grundfos	RediFlo 2	

Depth to Water: 18.75 17.95

Well Depth: 22.21

Water Column: \_\_\_\_\_

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 39.5

Total Volume Removed (gal): \_\_\_\_\_

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm <sup>2</sup> )	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1505	—	1000	17.95	15.83	6.05	0.193	11.97	-145.6	31.6	clear
1510	5.0	1000	17.98	14.69	5.89	0.226	0.88	-142.8	9.44	"
1515	10.0	1000	17.98	14.52	5.89	0.206	0.80	-157.5	4.96	"
1520	15.0	1000	17.98	14.55	5.89	0.172	0.53	-156.4	3.16	"
1525	20.0	1000	17.98	14.62	5.83	0.159	0.21	-155.0	2.30	"
1530	22.0	1000	17.98	14.68	5.78	0.151	1.53	-154.0	1.52	"
1535	25.0	1000	17.98	14.74	5.76	0.148	1.63	-152.9	2.15	"
1540	27.5	500	17.98	14.79	5.72	0.144	1.32	-149.3	1.16	"
1545	30.0	500	17.98	14.80	5.72	0.139	1.69	-151.8	1.44	"
1550	32.5	500	17.98	14.79	5.71	0.139	1.53	-147.7	1.01	"
1555	35.0	500	17.98	14.65	5.70	0.135	1.49	-149.5	1.10	"
1600	37.5	500	17.98	14.69	5.68	0.137	1.34	-147.0	0.61	"

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ±10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

## Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1605	MW-09S -10- 10-17	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

## Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Erich Seiler  
Signature

10/10/2017  
Date

1605 40.0 500 17.98 14.72 5.68 0.138 1.42 146.7 0.75, clear

# KOMAN Government Solutions

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-16S

Date: 10/11/17  
 Sampler: E. Seiler & S. Georges  
 PID (ppm) ---

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Well Construction: 2" PVC

Depth to Water: 20.73

Well Depth: 25.41

Water Column: \_\_\_\_\_

Dedicated Pump in Well?: No

Volume Required (gal) (Water Column x factor x 3): 12.3

Total Volume Removed (gal): \_\_\_\_\_

### Field Testing Equipment

Make	Model	Serial #
YSI	556	037703
LaMotte	2020	1606005084
Grundfos	2" Pump	
Grundfos	RediFlo 2	

*recalibrate* →

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm <sup>2</sup> )	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1053	—	800	20.77	17.1	6.16	234.8	0.62	-46.8	2.24	clear
1058	4.0	800	20.77	17.1	5.96	237.0	0.06	-50.0	1.34	"
1103	8.0	800	20.77	17.1	5.85	237.9	-0.05	-53.1	1.66	"
1113	8.0	800	20.77	17.8	5.95	240.2	1.21	-19.8	1.38	"
1118	12.0	800	20.77	17.1	5.87	237.1	-0.09	-38.8	0.96	"
1123	16.0	800	20.77	17.1	5.85	237.8	-0.14	-48.8	0.95	"
1128	18.0	800	20.77	17.1	5.85	235.1	-0.16	-49.7	1.05	"

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1130	MW-16S -12-11 -15	40 mL CG	3 x 4 = 12	HCl	Select VOCs
		1L AG	2 x 4 = 8	---	2-methylnaphthalene
		250 mL PL	1 x 4 = 4	HNO3	Lead
1140	DUP-1-10-11 -17 + MS/MSD for all above parameters				

### Comments

Collect DUP-1, MS/MSD

Erich Seiler  
 Signature

10/11/2017  
 Date

# KOMAN Government Solutions

## Low Flow/ Low Stress Groundwater Sampling Log

Project: NWIRP Calverton Site 7  
 Location: Calverton, NY  
 Well ID: MW-17S

Date: 10/ 10 /17  
 Sampler: S. GREGG  
 PID (ppm) ---

Start Time: 1706 End Time: \_\_\_\_\_

### Field Testing Equipment

Well Construction: 2" PVC

Make \_\_\_\_\_ Model \_\_\_\_\_ Serial # \_\_\_\_\_

Depth to Water: 20.03

YSI \_\_\_\_\_ 556 \_\_\_\_\_

Well Depth: 25.43

LaMotte \_\_\_\_\_ 2020 \_\_\_\_\_

Water Column: \_\_\_\_\_

Grundfos \_\_\_\_\_ 2" Pump \_\_\_\_\_

Dedicated Pump in Well?: No

Grundfos \_\_\_\_\_ RediFlo 2 \_\_\_\_\_

Volume Required (gal) (Water Column x factor x 3): 2.64 gal / 10.00 L

Total Volume Removed (gal): \_\_\_\_\_

Time (hh:mm)	Volume Removed (L)	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (STD)	SPC (µS/cm²)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color
1706	—	1000	20.06	17.60	6.13	418	7.58	-166.3	2.16	Clear
1711	500L	1000	20.06	17.71	6.04	397	0.46	-170.7	1.41	Clear
1716	1000L	1000	20.07	17.54	6.02	357	0.28	-170.3	1.12	Clear
1721	1500L	1000	20.06	17.64	6.01	372	0.14	-170.8	0.98	Clear
1726	20L	1000	20.06	17.60	6.00	371	0.11	-170.1	0.90	Clear
1731	25L	1000	20.06	17.58	5.99	370	0.05	-170.0	0.75	Clear
1736	30L	1000	20.06	17.57	5.98	368	0.06	-169.7	0.76	Clear
1741	35L	1000	20.06	17.38	5.97	366	6.09	-169.5	0.70	Clear

Acceptance Criteria: <0.3ft 3% ±0.1 3% 10% ± 10mv 10%

2" Screen Volume = 0.163 gal/ft or 616 ml per foot

1 gal = 3.79 L

4" Screen Volume = 0.65 gal/ft = 2.46 L

### Sample Collection

Time	Sample ID	Container	# Bottles	Preservative	Analysis
1741	MW-17S -12- 10 -15	40 mL CG	3	HCl	Select VOCs
		1L AG	2	---	2-methylnaphthalene
		250 mL PL	1	HNO3	Lead

### Comments

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Erich Smith

Signature

10/16/2017

Date

**APPENDIX B**  
**DATA VALIDATION REPORTS AND**  
**VALIDATED DATA SUMMARY**



**APRIL 2017**

**VOLATILE ORGANIC COMPOUNDS**  
USEPA Region II –Data Validation

**Project Name:** NWIRP Calverton, Site 7 Quarterly LTM  
**Location:** Calverton, New York  
**Project Number:** 2032-503  
**SDG #:** R1703120  
**Client:** KOMAN Government Solutions, LLC.  
**Date:** 06/08/2017  
**Laboratory:** ALS Environmental, Rochester, NY  
**Reviewer:** Sherri Pullar

**Summary:**

1. Data validation was performed on the data for 12 (twelve) water samples and 1 (one) field blank and 1 (one) trip blank were analyzed for Volatiles by SW846 Method 8260C.
2. The samples were collected on 04/05-06/2017. The samples were submitted to ALS Environmental, Rochester, NY on 04/07/2017 for analysis.
3. The USEPA Region II SOP HW-24, Revision No.: 2, August 2008: Validating Volatile Organic Compounds by SW-846 Method 8260B was used in evaluating the Volatiles data in this summary report.
4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).

**Samples:**

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Analysis	Matrix	Sample Status
MW-07S-040517	R1703120-001	04/05/17	VOA	Water	
MW-07I-040517	R1703120-002	04/05/17	VOA	Water	
MW-08S-040517	R1703120-003	04/05/17	VOA	Water	
MW-09S-040517	R1703120-004	04/05/17	VOA	Water	
MW-17S-040617	R1703120-005	04/06/17	VOA	Water	
SV-2-040617	R1703120-006	04/06/17	VOA	Water	
MW-16S-040617	R1703120-007	04/06/17	VOA	Water	
SV-13-040617	R1703120-008	04/05/17	VOA	Water	
SV-4-040617	R1703120-009	04/06/17	VOA	Water	
SV-11-040617	R1703120-010	04/06/17	VOA	Water	
DUP-1-040617	R1703120-011	04/05/17	VOA	Water	Field Duplicate of sample SV-13-040517
EB-1-040617	R1703120-012	04/05/17	VOA	Water	Equipment Blank
SV-15-040617	R1703120-013	04/06/17	VOA	Water	
Trip Blank	R1703120-014	04/05/17	VOA	Water	Trip Blank

**Sample Conditions/Problems:**

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative did not indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. No qualifications were required.

**Holding Times:**

1. All water samples were analyzed within 14 days from sample collection. No qualifications were required.
2. All water samples were properly preserved (pH<2.0). No qualifications were required.

**GC/MS Tuning:**

1. All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

**Initial Calibration:**

1. Initial calibration curve analyzed on 04/14/2017 (R-MS-06) exhibited acceptable %RSDs and average RRF values for all compounds. No qualifications were required.

**Continuing Calibration Verification (CCV):**

1. CCV analyzed on 04/14/2017 @ 09:05 (R-MS-06) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
2. CCV analyzed on 04/14/2017 @ 19:33 (R-MS-06) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
3. CCV analyzed on 04/17/2017 @ 09:17 (R-MS-06) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
4. CCV analyzed on 04/17/2017 @ 19:47 (R-MS-06) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
5. CCV analyzed on 04/18/2017 @ 09:08 (R-MS-06) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
6. CCV analyzed on 04/18/2017 @ 18:29 (R-MS-06) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.

**Surrogates:**

1. Surrogates %RECs values for all water samples and associated QC were within the laboratory limits with the exception of toluene-d8 in samples SV-11-040617 (113%) and SV-11-040617 RE (113%).

Client Sample ID	Surrogate	%REC	Compound	Action
SV-11-040617	Toluene-d8	113	Ethylbenzene	None
			M,p-Xylenes	None
			Toluene	None
			o-Xylene	J
SV-11-040617	Toluene-d8	113	Ethylbenzene	None
			M,p-Xylenes	None

Client Sample ID	Surrogate	%REC	Compound	Action
			Toluene o-Xylene	None J

Note: Results for the re-analysis for sample SV-11-040617 were marked as “N” in the reportable column of the EDD for “Do Not Use.”

**Internal Standard (IS) Area Performance:**

1. All samples exhibited acceptable area count for all four internal standards. No qualifications were required.

**Method Blank (MB), Storage Blank (SB), Trip Blank (TB), Field Blank (FB), Rinsate Blank (RB) and Equipment Blank (EB):**

1. Method Blank (RQ1703212-04) analyzed on 04/14/2017.

Blank ID	Compound	Results (µg/L)	Action Level (LOQ)* (µg/L)	Sample Affected	Action
RQ1703212-04	Napthalene	0.20	5.0	Trip Blank EB-01-040517 MW-07S-040517 MW-08S-040517 SV-13-040517 MW-17S-040617 MW-16S-040617 SV-4-040617 SV-11-040617 SV-15-040617	None None None U None None None None U U

2. Method Blank (RQ1703299-04) analyzed on 04/17/2017.

Blank ID	Compound	Results (µg/L)	Action Level (LOQ)* (µg/L)	Sample Affected	Action
RQ1703299-04	Napthalene	0.21	5.0	MW-09S-040517 SV-11-040617 MW-07I-040517 SV-2-040617	None U None None

3. Method Blank (RQ1703337-04) analyzed on 04/18/2017.

Blank ID	Compound	Results (µg/L)	Action Level (LOQ)* (µg/L)	Sample Affected	Action
RQ1703337-04	Napthalene	0.23	5.0	DUP-1-040517	None

- Equipment Blank (EB-1-040517) (R1703120-012) associated with this SDG analyzed on 10/12/2016 was free of contamination. No qualifications were required.
- Trip Blank (R1703120-014) associated with this SDG analyzed on 10/12/2016 was free of contamination. No qualifications were required.

**Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):**

- Laboratory Control Sample (RQ1703212-03) was analyzed on 04/14/2017. All %RECs were within the laboratory control limits. No qualifications were required.
- Laboratory Control Sample (RQ1703299-03) was analyzed on 04/17/2017. All %RECs were within the laboratory control limits. No qualifications were required.
- Laboratory Control Sample (RQ1703337-03) was analyzed on 04/18/2017. All %RECs were within the laboratory control limits. No qualifications were required.

**Field Duplicate:**

- Sample DUP-1-040617 (R1703120-011) was collected as field duplicate for sample SV-13-040617 (R1703120-008). RPDs were within the control limits (<30%). No qualifications were required.

Field Sample	Compound	Analytical Method	Result	Units	Field Duplicate	Result	Units	RPD	Qualifier
SV-13-040617	Ethylbenzene	SW846 8260C	3.9	µg/l	DUP-1-040617	4.4	µg/l	9.8	None
SV-13-040617	m,p-xylene	SW846 8260C	5.9	µg/l	DUP-1-040617	6.1	µg/l	0	None
SV-13-040617	Naphthalene	SW846 8260C	5	µg/l	DUP-1-040617	5.8	µg/l	51.6	None
SV-13-040617	o-Xylene	SW846 8260C	5.4	µg/l	DUP-1-040617	5.8	µg/l	28.6	None

**Matrix Spike (MS)/ Matrix Spike Duplicate (MSD):**

- Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample SV-13-040617 (R1703120-008). All %RECs and RPDs were within the laboratory control limits. No qualifications were required.

**Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs):**

1. All results were within the linear calibration range. No qualifications were required.

**Target Compound Identification:**

1. All Relative Retention Times (RRTs) of the reported compounds were within  $\pm 0.06$  RRT units of the standard (opening CCV).
2. Sample compound spectra were compared against the laboratory standard spectra.
3. No QC deviations were observed.

**Comments:**

1. Validation qualifiers (if required) were entered into the EDD for SDG: R1703120.



**SEMI-VOLATILE ORGANIC COMPOUNDS**  
USEPA Region II –Data Validation

**Project Name:** NWIRP Calverton, Site 7 Quarterly LTM  
**Location:** Calverton, New York  
**Project Number:** 2032-503  
**SDG #:** R1703120  
**Client:** KOMAN Government Solutions, LLC.  
**Date:** 06/08/2017  
**Laboratory:** ALS Environmental, Rochester, NY  
**Reviewer:** Sherri Pullar

**Summary:**

1. Data validation was performed on the data for twelve (12) water samples and one (1) field blank were analyzed for Semi-volatiles by SW-846 Method 8270D.
2. The samples were collected on 04/05-06/2017. The samples were submitted to ALS Environmental, Rochester, NY on 04/07/2017 for analysis.
3. The USEPA Region-II SOP HW-22, Revision 3, August 2008, Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8270D was used in evaluating the Semi-volatiles data in this summary report.
4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (see discussion below).

**Samples:**

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Analysis	Matrix	Sample Status
MW-07S-040517	R1703120-001	04/05/17	SVO	Water	
MW-07I-040517	R1703120-002	04/05/17	SVO	Water	
MW-08S-040517	R1703120-003	04/05/17	SVO	Water	
MW-09S-040517	R1703120-004	04/05/17	SVO	Water	
MW-17S-040617	R1703120-005	04/06/17	SVO	Water	
SV-2-040617	R1703120-006	04/06/17	SVO	Water	
MW-16S-040617	R1703120-007	04/06/17	SVO	Water	
SV-13-040517	R1703120-008	04/05/17	SVO	Water	
SV-4-040617	R1703120-009	04/06/17	SVO	Water	
SV-11-040617	R1703120-010	04/06/17	SVO	Water	
DUP-1-040517	R1703120-011	04/05/17	SVO	Water	Field Duplicate of sample SV-13-040517
EB-1-040617	R1703120-012	04/05/17	SVO	Water	Equipment Blank
SV-15-040617	R1703120-013	04/06/17			

**Sample Conditions/Problems:**

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative did not indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. No qualifications were required.

**Holding Times:**

1. All aqueous samples were extracted within 7 days from sample collection and analyzed within 40 days following sample extraction. No qualifications were required.

**GC/MS Tuning:**

1. All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

**Initial Calibration:**

1. Initial calibration curve analyzed on 04/13/2017 (R-MS-54) exhibited acceptable %RSDs ( $\leq 30.0\%$ ) for CCC compounds and average RRF values for SPCC compounds. Also %RSDs for all other compounds were  $\leq 20.0\%$  and average RRF ( $> 0.050$ ). No qualifications were required.

**Continuing Calibration Verification (CCV):**

1. CCV analyzed on 04/13/2017 @ 09:35 (R-MS-54) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. Also, %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
2. CCV analyzed on 04/13/2017 @ 20:13 (R-MS-54) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. Also, %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.

**Surrogates:**

1. All surrogate %REC values in the original extracts were within the QC acceptance limits. No qualifications were required.

**Internal Standard (IS) Area Performance:**

1. All samples exhibited acceptable area count for all six internal standards. No qualifications were required.

**Method Blank (MB), Storage Blank (SB), Trip Blank (TB), Field Blank (FB), Rinsate Blank (RB) and Equipment Blank (EB):**

1. Method Blank (RQ170304-01) associated with the aqueous samples extracted on 04/12/2017 and analyzed on 04/13/2017 was free of contaminations. No qualifications were required.

**Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):**

1. Laboratory Control Sample/Laboratory Control Sample Duplicate (RQ1703042-02/03) were analyzed on 04/13/2017. All %RECs and RPDs were within the laboratory control limits. No qualifications were required.

**Field Duplicate:**

1. Sample DUP-1-040617 (R1703120-011) was collected as field duplicate for sample SV-13-040617 (R1703120-008). RPDs were within the control limits (<30%). No qualifications were required.

Field Sample	Compound	Analytical Method	Result	Units	Field Duplicate	Result	Units	RPD	Qualifier
SV-2-032416	2-Methylnaphthalene	SW846 8270D	1.2	µg/l	DUP-1-120315	1.5	µg/l	22.2	None

**Matrix Spike (MS)/Matrix Spike Duplicate (MSD):**

1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample SV-13-040517 (R1703120-008). All %RECs and RPDs were within the laboratory control limits. No qualifications were required.

**Target Compound Identification:**

1. All Relative Retention Times (RRTs) of the reported compounds were within  $\pm 0.06$  RRT units of the standard (opening CCV).
2. Sample compound spectra were compared against the laboratory standard spectra.
3. No QC deviations were observed.

**Compound Quantitation and Reported Detection Limits:**

1. All sample results were reported within the linear calibration range.

**Comments:**

1. Validation qualifiers (if required) were entered into the EDD for SDG: R1703120.

**Metals**  
USEPA Region II –Data Validation

**Project Name:** NWIRP Calverton, Site 7 Quarterly LTM  
**Location:** Calverton, New York  
**Project Number:** 2032-503  
**SDG #:** R1703120  
**Client:** KOMAN Government Solutions, LLC.  
**Date:** 06/08/2017  
**Laboratory:** ALS Environmental, Rochester  
**Reviewer:** Sherri Pullar

**Summary:**

1. Data validation was performed on the data for twelve (12) water samples and one (1) field blank analyzed for the following analysis:
  - 1.1 Trace Metals-ICP by SW-846 Method 6020A.
2. The samples were collected on 04/05-06/2017. The samples were submitted to ALS Environmental, Rochester, NY on 04/07/2017 for analysis.
3. The USEPA Region-II SOP No. HW-2, Revision 13, September 2006, Validation of Metals for Contract Laboratory Program (CLP), based on SOW-ILM05.3 (SOP Revision 13) was used in evaluating the Trace Metals data in this summary report.
4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).

**Samples:**

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Analysis	Matrix	Sample Status
MW-07S-040517	R1703120-001	04/05/17	Total Pb	Water	
MW-07I-040517	R1703120-002	04/05/17	Total Pb	Water	
MW-08S-040517	R1703120-003	04/05/17	Total Pb	Water	
MW-09S-040517	R1703120-004	04/05/17	Total Pb	Water	
MW-17S-040617	R1703120-005	04/06/17	Total Pb	Water	
SV-2-040617	R1703120-006	04/06/17	Total Pb	Water	
MW-16S-040617	R1703120-007	04/06/17	Total Pb	Water	
SV-13-040517	R1703120-008	04/05/17	Total Pb	Water	
SV-4-040617	R1703120-009	04/06/17	Total Pb	Water	
SV-11-040617	R1703120-010	04/06/17	Total Pb	Water	
DUP-1-040517	R1703120-011	04/05/17	Total Pb	Water	Field Duplicate of sample SV-13-040517
EB-01-040517	R1703120-012	04/05/17	Total Pb	Water	Equipment Blank
SV-15-040617	R1703120-013	04/06/17	Total Pb	Water	

**Sample Conditions/Problems:**

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative did not indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. No qualifications were required.

**Holding Times:**

1. All water samples were analyzed within the six (6) months holding time for lead analysis by ICP. No qualifications were required.
2. All water samples were digested and analyzed within the 28 days holding times for Mercury analysis. No qualifications were required.

**Initial and Continuing Calibration Verification (ICV and CCV):**

1. All %RECs in the ICV and CCVs were within QC limits (90-110%). No qualifications were required.

**CRQL Check Standard (CRI):**

1. All CRI %RECs were within the control limits (70-130%). No qualifications were required.

**ICP Interference Check Sample:**

1. All %REC values were within the QC limits (80-120%) for ICSA and ICSAB. No qualifications were required.

**Blanks (Method Blank, ICB and CCB):**

1. All ICBs and CCBs were free of contamination. No qualifications were required.
2. Method Blank (PBW) digested on 04/10/2017 was free of contamination. No qualifications were required.
3. Equipment Blank (EB-01-040517 [R1703120-012]) digested on 04/10/2017 and analyzed on 04/11/17 was free of contamination. No qualifications were required.

**Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):**

1. Laboratory Control Sample associated with Sample ID: LCSW was digested on 04/10/2017. All %RECs were within the laboratory control limits. No qualifications were required.

**Field Duplicate:**

1. Sample DUP-1-040517 (R1703120-011) was collected as a field duplicate for sample SV-13-040517 (R1703120-008). RPDs were  $\leq 30\%$ . Lead was non-detect in both samples. No qualifications were required.

**Matrix Spike (MS)/ Matrix Spike Duplicate (MSD):**

1. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) were performed on sample SV-13-040517 (R1703120-008). All %RECs/RPDs were within the laboratory control limits. No qualifications were required.

**ICP-AES Serial Dilution:**

1. ICP serial dilution was performed on sample SV-13-040517 (R1703120-008). All results that are sufficiently high (concentration in the original sample is >50x the Method Detection Limits (MDL)), the serial dilution analysis (a 5x dilution) were within the acceptable limit (%D=  $\pm 10\%$ ). No qualifications were required.

**Compound Quantitation and Reported Detection Limits:**

1. All sample results were reported within the linear calibration range.

**Comments:**

1. Validation qualifiers (if required) were entered into the EDD for SDG: R1703120.





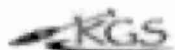
NWIRP CALVERTON, NY  
APRIL 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1703120

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	Ethylbenzene	1	UG_L	U	1	5
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	Naphthalene	1	UG_L	U	1	5
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	m,p-Xylenes	2	UG_L	U	2	5
MW-07S-040517	R1703120-001	8260C	1	4/5/2017	o-Xylene	1	UG_L	U	1	5
MW-07S-040517	R1703120-001	8270D	1	4/5/2017	2-Methylnaphthalene	5.6	UG_L	U	5.6	11
MW-07S-040517	R1703120-001	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	Ethylbenzene	1	UG_L	U	1	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	m,p-Xylenes	2	UG_L	U	2	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	Naphthalene	5.5	UG_L		1	5
MW-07I-040517	R1703120-002	8260C	1	4/5/2017	o-Xylene	1.3	UG_L	J	1	5
MW-07I-040517	R1703120-002	8270D	1	4/5/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
MW-07I-040517	R1703120-002	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	Ethylbenzene	1	UG_L	U	1	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	m,p-Xylenes	2	UG_L	U	2	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	o-Xylene	1	UG_L	U	1	5
MW-08S-040517	R1703120-003	8260C	1	4/5/2017	Naphthalene	5	UG_L	U	1	5
MW-08S-040517	R1703120-003	8270D	1	4/5/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
MW-08S-040517	R1703120-003	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	Ethylbenzene	1	UG_L	U	1	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	Naphthalene	1	UG_L	U	1	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	m,p-Xylenes	2	UG_L	U	2	5
MW-09S-040517	R1703120-004	8260C	1	4/5/2017	o-Xylene	1	UG_L	U	1	5



NWIRP CALVERTON, NY  
APRIL 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1703120

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
MW-09S-040517	R1703120-004	8270D	1	4/5/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
MW-09S-040517	R1703120-004	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	Benzene	1	UG_L	U	1	5
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	Toluene	1	UG_L	U	1	5
MW-17S-040617	R1703120-005	8270D	1	4/6/2017	2-Methylnaphthalene	32	UG_L		5	9.4
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	Ethylbenzene	44	UG_L		1	5
MW-17S-040617	R1703120-005	6010C	1	4/6/2017	Lead	2.4	UG_L	J	2.5	5
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	m,p-Xylenes	98	UG_L		2	5
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	Naphthalene	67	UG_L		1	5
MW-17S-040617	R1703120-005	8260C	1	4/6/2017	o-Xylene	2	UG_L	J	1	5
SV-2-040617	R1703120-006	8260C	2	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	2	UG_L	U	2	10
SV-2-040617	R1703120-006	8260C	2	4/6/2017	Benzene	2	UG_L	U	2	10
SV-2-040617	R1703120-006	8260C	2	4/6/2017	Toluene	2	UG_L	U	2	10
SV-2-040617	R1703120-006	8260C	2	4/6/2017	Ethylbenzene	98	UG_L		2	10
SV-2-040617	R1703120-006	6010C	1	4/6/2017	Lead	3	UG_L	J	2.5	5
SV-2-040617	R1703120-006	8260C	2	4/6/2017	m,p-Xylenes	310	UG_L		4	10
SV-2-040617	R1703120-006	8260C	2	4/6/2017	Naphthalene	23	UG_L		2	10
SV-2-040617	R1703120-006	8260C	2	4/6/2017	o-Xylene	46	UG_L		2	10
SV-2-040617	R1703120-006	8270D	1	4/6/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2	UG_L	J	1	5
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	Ethylbenzene	13	UG_L		1	5
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	Benzene	1	UG_L	U	1	5
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	Toluene	1	UG_L	U	1	5
MW-16S-040617	R1703120-007	6010C	1	4/6/2017	Lead	2.2	UG_L	J	2.5	5
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	m,p-Xylenes	4.7	UG_L	J	2	5
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	Naphthalene	6.1	UG_L		1	5
MW-16S-040617	R1703120-007	8270D	1	4/6/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
MW-16S-040617	R1703120-007	8260C	1	4/6/2017	o-Xylene	0.32	UG_L	J	1	5
SV-13-040517	R1703120-008	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
SV-13-040517	R1703120-008	8270D	1	4/5/2017	2-Methylnaphthalene	1.2	UG_L	J	5	9.4
SV-13-040517	R1703120-008	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
SV-13-040517	R1703120-008	8260C	1	4/5/2017	Ethylbenzene	3.9	UG_L	J	1	5
SV-13-040517	R1703120-008	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5



NWIRP CALVERTON, NY  
APRIL 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1703120

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
SV-13-040517	R1703120-008	8260C	1	4/5/2017	m,p-Xylenes	5.9	UG_L		2	5
SV-13-040517	R1703120-008	8260C	1	4/5/2017	Naphthalene	5	UG_L	J	1	5
SV-13-040517	R1703120-008	8260C	1	4/5/2017	o-Xylene	5.4	UG_L		1	5
SV-13-040517	R1703120-008	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
SV-4-040617	R1703120-009	8260C	1	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.84	UG_L	J	1	5
SV-4-040617	R1703120-009	8260C	1	4/6/2017	Ethylbenzene	6.1	UG_L		1	5
SV-4-040617	R1703120-009	6010C	1	4/6/2017	Lead	3.6	UG_L	J	2.5	5
SV-4-040617	R1703120-009	8260C	1	4/6/2017	Benzene	1	UG_L	U	1	5
SV-4-040617	R1703120-009	8260C	1	4/6/2017	m,p-Xylenes	33	UG_L		2	5
SV-4-040617	R1703120-009	8260C	1	4/6/2017	Toluene	1	UG_L	U	1	5
SV-4-040617	R1703120-009	8260C	1	4/6/2017	Naphthalene	19	UG_L		1	5
SV-4-040617	R1703120-009	8270D	1	4/6/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
SV-4-040617	R1703120-009	8260C	1	4/6/2017	o-Xylene	13	UG_L		1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.1	UG_L	J	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Ethylbenzene	1	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Toluene	1	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	m,p-Xylenes	2	UG_L	U	2	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Benzene	1	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	o-Xylene	0.21	UG_L	J	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Naphthalene	0.39	UG_L	U	1	5
SV-11-040617	R1703120-010	6010C	1	4/6/2017	Lead	2.5	UG_L	U	2.5	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.2	UG_L	J	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Benzene	1	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Ethylbenzene	1	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Toluene	1	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	Naphthalene	5	UG_L	U	1	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	m,p-Xylenes	2	UG_L	U	2	5
SV-11-040617	R1703120-010	8260C	1	4/6/2017	o-Xylene	0.24	UG_L	J	1	5
SV-11-040617	R1703120-010	8270D	1	4/6/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
DUP-1-040517	R1703120-011	8270D	1	4/5/2017	2-Methylnaphthalene	1.5	UG_L	J	5	9.4
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	Ethylbenzene	4.4	UG_L	J	1	5
DUP-1-040517	R1703120-011	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5



NWIRP CALVERTON, NY  
APRIL 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1703120

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	m,p-Xylenes	6.1	UG_L		2	5
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	Naphthalene	5.8	UG_L		1	5
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	o-Xylene	5.8	UG_L		1	5
DUP-1-040517	R1703120-011	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	Ethylbenzene	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	Naphthalene	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	m,p-Xylenes	2	UG_L	U	2	5
EB-01-040517	R1703120-012	8260C	1	4/5/2017	o-Xylene	1	UG_L	U	1	5
EB-01-040517	R1703120-012	8270D	1	4/5/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
EB-01-040517	R1703120-012	6010C	1	4/5/2017	Lead	2.5	UG_L	U	2.5	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.4	UG_L	J	1	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	Naphthalene	5	UG_L	U	1	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	Benzene	1	UG_L	U	1	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	Ethylbenzene	1	UG_L	U	1	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	Toluene	1	UG_L	U	1	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	m,p-Xylenes	2	UG_L	U	2	5
SV-15-040617	R1703120-013	8260C	1	4/6/2017	o-Xylene	1	UG_L	U	1	5
SV-15-040617	R1703120-013	8270D	1	4/6/2017	2-Methylnaphthalene	5	UG_L	U	5	9.4
SV-15-040617	R1703120-013	6010C	1	4/6/2017	Lead	2.5	UG_L	U	2.5	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	U	1	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	Benzene	1	UG_L	U	1	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	Ethylbenzene	1	UG_L	U	1	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	Naphthalene	1	UG_L	U	1	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	Toluene	1	UG_L	U	1	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	m,p-Xylenes	2	UG_L	U	2	5
TRIP BLANK	R1703120-014	8260C	1	4/5/2017	o-Xylene	1	UG_L	U	1	5

**OCTOBER 2017**

**VOLATILE ORGANIC COMPOUNDS**  
USEPA Region II –Data Validation

**Project Name:** NWIRP Calverton, Site 7 Quarterly LTM  
**Location:** Calverton, New York  
**Project Number:** 2032-305  
**SDG #:** R1709775  
**Client:** KOMAN Government Solutions, LLC.  
**Date:** 11/13/2017  
**Laboratory:** ALS Environmental, Rochester, NY  
**Reviewer:** Sherri Pullar

**Summary:**

1. Data validation was performed on the data for 12 (twelve) water samples and 1 (one) field blank and 1 (one) trip blank were analyzed for Volatiles by SW846 Method 8260C.
2. The samples were collected on 10/10-12/2017. The samples were submitted to ALS Environmental, Rochester, NY on 10/12/2017 for analysis.
3. The USEPA Region II SOP HW-24, Revision No.: 2, August 2008: Validating Volatile Organic Compounds by SW-846 Method 8260B was used in evaluating the Volatiles data in this summary report.
4. In general, the data are valid as reported and may be used for decision making purposes. Data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).



**Samples:**

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Analysis	Matrix	Sample Status
MW-07S-101017	R1709775-001	10/10/17	VOA	Water	
MW-07I-101217	R1709775-002	10/12/17	VOA	Water	
MW-08S-101017	R1709775-003	10/10/17	VOA	Water	
MW-09S-101017	R1709775-004	10/10/17	VOA	Water	
SV-2-101017	R1709775-005	10/10/17	VOA	Water	
SV-4-101117	R1709775-006	10/11/17	VOA	Water	
SV-11-101117	R1709775-007	10/11/17	VOA	Water	
SV-13-101117	R1709775-008	10/11/17	VOA	Water	
SV-15-101117	R1709775-009	10/11/17	VOA	Water	
MW-16S-101117	R1709775-010	10/11/17	VOA	Water	
MW-17S-101017	R1709775-011	10/10/17	VOA	Water	
DUP-1-101117	R1709775-012	10/11/17	VOA	Water	Field Duplicate of sample MW-16S-101117
FB-1-101217	R1709775-013	10/12/17	VOA	Water	Field Blank
TB-1-101217	R1709775-014	10/12/17	VOA	Water	Trip Blank

**Sample Conditions/Problems:**

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative indicated that there were problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. Temperatures were above QC limits at 11.8, 6.3 and 11.2 degrees. It was noted that the samples were poorly packed, and ice was melted. Two vials were broken upon arrival, samples vials for MW-16S and MW09S. There was headspace in the trip blank bottle.

VOC results in trip blank TB-1-101217 were all qualified as estimated (UJ) due to headspace in the VOC jar.

All sample results in this SDG are qualified as estimated (J/UJ) due to high cooler temperatures.

**Holding Times:**

1. All water samples were analyzed within 14 days from sample collection. No qualifications were required.
2. All water samples were properly preserved (pH<2.0). No qualifications were required.

**GC/MS Tuning:**

1. All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

**Initial Calibration:**

1. Initial calibration curve analyzed on 08/31/2017 (R-MS-12) exhibited acceptable %RSDs and average RRF values for all compounds. No qualifications were required.

**Continuing Calibration Verification (CCV):**

1. CCV analyzed on 10/19/2017 @ 10:35 (R-MS-12) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
2. CCV analyzed on 10/19/2017 @ 20:44 (R-MS-12) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
3. CCV analyzed on 10/20/2017 @ 09:51 (R-MS-12) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
4. CCV analyzed on 10/20/2017 @ 19:41 (R-MS-12) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.

**Surrogates:**

1. Surrogates %RECs values for all water samples and associated QC were within the laboratory limits. No qualifications were required.

**Internal Standard (IS) Area Performance:**

1. All samples exhibited acceptable area count for all four internal standards. No qualifications were required.

**Method Blank (MB), Storage Blank (SB), Trip Blank (TB), Field Blank (FB), Rinsate Blank (RB) and Equipment Blank (EB):**



1. Method Blank (RQ1700796-04) analyzed on 10/19/2017 was free of contamination. No qualifications were required.
2. Method Blank (RQ1710834-04) analyzed on 10/20/2017 was free of contamination. No qualifications were required.
3. Equipment Blank (EB-1-040517) (R1703120-012) associated with this SDG analyzed on 10/12/2017.

Blank ID	Compound	Results (µg/L)	Action Level (LOQ)* (µg/L)	Sample Affected	Action
FB-1-101217	Toluene	0.30	5.0	All field samples in this SDG	None

4. Trip Blank TB-1 101217 (R1709775-014) associated with this SDG analyzed on 10/12/2017 was free of contamination. No qualifications were required.

**Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):**

1. Laboratory Control Sample (RQ1710796-03) was analyzed on 10/19/2017. All %RECs were within the laboratory control limits. No qualifications were required.
2. Laboratory Control Sample (RQ1710835-03) was analyzed on 10/20/2017. All %RECs were within the laboratory control limits. No qualifications were required.

**Field Duplicate:**

1. Sample DUP-1-101117 (R1709775-012) was collected as field duplicate for sample MW-16S-101117 (R1709775-010). RPDs were within the control limits (<30%) with the following exception:

Field Sample	Compound	Analytical Method	Result	Units	Field Duplicate	Result	Units	RPD	Qualifier
MW-16S-101117	Ethylbenzene	SW846 8260C	15	µg/l	DUP-1-101117	17	µg/l	12.5	None
MW-16S-101117	m,p-xylene	SW846 8260C	8.8	µg/l	DUP-1-101117	10	µg/l	10	None
MW-16S-101117	Naphthalene	SW846 8260C	9	µg/l	DUP-1-101117	10	µg/l	12.8	None
MW-16S-101117	o-Xylene	SW846 8260C	0.38	µg/l	DUP-1-101117	0.68	µg/l	56.6	J

**Matrix Spike (MS)/ Matrix Spike Duplicate (MSD):**

1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample MW-16S-101117 (R1709775-010). All %RECs and RPDs were within the laboratory control limits. No qualifications were required.
2. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample DUP-1-101117 (R1709775-012). All %RECs and RPDs were within the laboratory control limits. No qualifications were required.

**Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs):**

1. All results were within the linear calibration range. No qualifications were required.

**Target Compound Identification:**

1. All Relative Retention Times (RRTs) of the reported compounds were within  $\pm 0.06$  RRT units of the standard (opening CCV).
2. Sample compound spectra were compared against the laboratory standard spectra.
3. No QC deviations were observed.

**Comments:**

1. Validation qualifiers (if required) were entered into the EDD for SDG: R1709775.

**SEMI-VOLATILE ORGANIC COMPOUNDS**  
USEPA Region II –Data Validation

**Project Name:** NWIRP Calverton, Site 7 Quarterly LTM  
**Location:** Calverton, New York  
**Project Number:** 2032-305  
**SDG #:** R1709775  
**Client:** KOMAN Government Solutions, LLC.  
**Date:** 11/13/2017  
**Laboratory:** ALS Environmental, Rochester, NY  
**Reviewer:** Sherri Pullar

**Summary:**

1. Data validation was performed on the data for twelve (12) water samples and one (1) field blank were analyzed for Semi-volatiles by SW-846 Method 8270D.
2. The samples were collected on 10/10-12/2017. The samples were submitted to ALS Environmental, Rochester, NY on 10/12/2017 for analysis.
3. The USEPA Region-II SOP HW-22, Revision 3, August 2008, Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8270D was used in evaluating the Semi-volatiles data in this summary report.
4. In general, the data are valid as reported and may be used for decision making purposes. Data points were qualified due to nonconformance of certain Quality Control criteria (see discussion below).

**Samples:**

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Analysis	Matrix	Sample Status
MW-07S-101017	R1709775-001	10/10/17	SVO	Water	
MW-07I-101217	R1709775-002	10/12/17	SVO	Water	
MW-08S-101017	R1709775-003	10/10/17	SVO	Water	
MW-09S-101017	R1709775-004	10/10/17	SVO	Water	
SV-2-101017	R1709775-005	10/10/17	SVO	Water	
SV-4-101117	R1709775-006	10/11/17	SVO	Water	
SV-11-101117	R1709775-007	10/11/17	SVO	Water	
SV-13-101117	R1709775-008	10/11/17	SVO	Water	
SV-15-101117	R1709775-009	10/11/17	SVO	Water	
MW-16S-101117	R1709775-010	10/11/17	SVO	Water	
MW-17S-101017	R1709775-011	10/10/17	SVO	Water	
DUP-1-101117	R1709775-012	10/11/17	SVO	Water	Field Duplicate of sample MW-16S-101117
FB-1-101217	R1709775-013	10/12/17	SVO	Water	Equipment Blank

**Sample Conditions/Problems:**

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative indicated that there were problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. Temperatures were above QC limits at 11.8, 6.3 and 11.2 degrees. It was noted that the samples were poorly packed, and ice was melted. Two vials were broken upon arrival, samples vials for MW-16S and MW09S.

All sample results in this SDG are qualified as estimated (J/UJ) due to high cooler temperatures.

**Holding Times:**

1. All aqueous samples were extracted within 7 days from sample collection and analyzed within 40 days following sample extraction. No qualifications were required.

**GC/MS Tuning:**

1. All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

### **Initial Calibration:**

1. Initial calibration curve analyzed on 10/6/2017 (R-MS-51) exhibited acceptable %RSDs ( $\leq 30.0\%$ ) for CCC compounds and average RRF values for SPCC compounds. Also %RSDs for all other compounds were  $\leq 20.0\%$  and average RRF ( $> 0.050$ ). No qualifications were required.

### **Continuing Calibration Verification (CCV):**

1. CCV analyzed on 10/19/2017 @ 08:39 (R-MS-51) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. Also, %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
2. CCV analyzed on 10/19/2017 @ 18:47 (R-MS-51) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. Also, %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
3. CCV analyzed on 10/19/2017 @ 11:34 (R-MS-51) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. Also, %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.
2. CCV analyzed on 10/19/2017 @ 18:11 (R-MS-51) exhibited acceptable %Ds ( $\leq 20.0\%$ ) for CCC compounds and RRF values for SPCC compounds. Also, %Ds for all other compounds were  $\leq 20.0\%$ . No qualifications were required.

### **Surrogates:**

1. All surrogate %REC values in the original extracts were within the QC acceptance limits. No qualifications were required.

### **Internal Standard (IS) Area Performance:**

1. All samples exhibited acceptable area count for all six internal standards. No qualifications were required.

### **Method Blank (MB), Storage Blank (SB), Trip Blank (TB), Field Blank (FB), Rinsate Blank (RB) and Equipment Blank (EB):**

1. Method Blank (RQ1710643-01) associated with the aqueous samples extracted on 10/17/2017 and analyzed on 10/19/2017 was free of contaminations. No qualifications were required.

2. Equipment Blank (EB-1-040517) (R1703120-012) associated with this SDG analyzed on 10/19/2017 was free of contamination. No qualifications were required.

**Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):**

1. Laboratory Control Sample/Laboratory Control Sample Duplicate (RQ1710643-02/03) were analyzed on 10/19/2017. All %RECs and RPDs were within the laboratory control limits. No qualifications were required.

**Field Duplicate:**

1. Sample DUP-1-101117 (R1709775-012) was collected as field duplicate for sample MW-16S-101117 (R1709775-010). 2-Methylnaphthalene was detected in the field duplicated sample but was non-detect in the field sample. Results for 2-methylnaphthalene were qualified as estimated (UJ/J) in the field duplicate pair.

**Matrix Spike (MS)/Matrix Spike Duplicate (MSD):**

1. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were performed on sample MW-16S-101117 (R1709775-010). All %RECs and RPDs were within the laboratory control limits. No qualifications were required.

**Target Compound Identification:**

1. All Relative Retention Times (RRTs) of the reported compounds were within  $\pm 0.06$  RRT units of the standard (opening CCV).
2. Sample compound spectra were compared against the laboratory standard spectra.
3. No QC deviations were observed.

**Compound Quantitation and Reported Detection Limits:**

1. All sample results were reported within the linear calibration range.

**Comments:**

1. Validation qualifiers (if required) were entered into the EDD for SDG: R1709775.

**Metals**  
USEPA Region II –Data Validation

**Project Name:** NWIRP Calverton, Site 7 Quarterly LTM  
**Location:** Calverton, New York  
**Project Number:** 2032-305  
**SDG #:** R1709775  
**Client:** KOMAN Government Solutions, LLC.  
**Date:** 11/15/2017  
**Laboratory:** ALS Environmental, Rochester  
**Reviewer:** Sherri Pullar

**Summary:**

1. Data validation was performed on the data for twelve (12) water samples and one (1) field blank analyzed for the following analysis:
  - 1.1 Trace Metals-ICP by SW-846 Method 6020A.
2. The samples were collected on 10/10-12/2017. The samples were submitted to ALS Environmental, Rochester, NY on 10/12/2017 for analysis.
3. The USEPA Region-II SOP No. HW-2, Revision 13, September 2006, Validation of Metals for Contract Laboratory Program (CLP), based on SOW-ILM05.3 (SOP Revision 13) was used in evaluating the Trace Metals data in this summary report.
4. In general, the data are valid as reported and may be used for decision making purposes. Selected data points were qualified due to nonconformance of certain Quality Control criteria (See discussion below).

**Samples:**

The samples included in this review are listed below:

Client Sample ID	Laboratory Sample ID	Collection Date	Analysis	Matrix	Sample Status
MW-07S-101017	R1709775-001	10/10/17	Total Pb	Water	
MW-07I-101217	R1709775-002	10/12/17	Total Pb	Water	
MW-08S-101017	R1709775-003	10/10/17	Total Pb	Water	
MW-09S-101017	R1709775-004	10/10/17	Total Pb	Water	
SV-2-101017	R1709775-005	10/10/17	Total Pb	Water	
SV-4-101117	R1709775-006	10/11/17	Total Pb	Water	
SV-11-101117	R1709775-007	10/11/17	Total Pb	Water	
SV-13-101117	R1709775-008	10/11/17	Total Pb	Water	
SV-15-101117	R1709775-009	10/11/17	Total Pb	Water	
MW-16S-101117	R1709775-010	10/11/17	Total Pb	Water	
MW-17S-101017	R1709775-011	10/10/17	Total Pb	Water	
DUP-1-101117	R1709775-012	10/11/17	Total Pb	Water	Field Duplicate of sample MW-16S-101117
FB-1-101217	R1709775-013	10/12/17	Total Pb	Water	Equipment Blank

**Sample Conditions/Problems:**

1. The Traffic Reports/Chain-of-Custody Records, Sampling Report and/or Laboratory Case Narrative indicated that there were problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data. Temperatures were above QC limits at 11.8, 6.3 and 11.2 degrees. It was noted that the samples were poorly packed, and ice was melted. Two vials were broken upon arrival, samples vials for MW-16S and MW09S. No qualifications were required.

**Holding Times:**

1. All water samples were analyzed within the six (6) months holding time for lead analysis by ICP. No qualifications were required.
2. All water samples were digested and analyzed within the 28 days holding times for Mercury analysis. No qualifications were required.



**Initial and Continuing Calibration Verification (ICV and CCV):**

1. All %RECs in the ICV and CCVs were within QC limits (90-110%). No qualifications were required.

**CRQL Check Standard (CRI):**

1. All CRI %RECs were within the control limits (70-130%). No qualifications were required.

**ICP Interference Check Sample:**

1. All %REC values were within the QC limits (80-120%) for ICSA and ICSAB. No qualifications were required.

**Blanks (Method Blank, ICB and CCB):**

1. All ICBs and CCBs were free of contamination. No qualifications were required.
2. Method Blank (PBW) digested on 10/18/2017 was free of contamination. No qualifications were required.
3. Field Blank (FB-01-101217 [R1709775-013]) digested on 10/18/2017 and analyzed on 10/20/17 was free of contamination. No qualifications were required.

**Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD):**

1. Laboratory Control Sample associated with Sample ID: LCSW was digested on 10/18/2017. All %RECs were within the laboratory control limits. No qualifications were required.

**Field Duplicate:**

1. Sample DUP-1-101117 (R1709775-012) was collected as a field duplicate for sample MW-16S-101117 (R1709775-010). Lead was non-detect in both samples. No qualifications were required.

**Matrix Spike (MS)/ Matrix Spike Duplicate (MSD):**

1. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) were performed on sample MW-16S-101117 (R1709775-010). All %RECs/RPDs were within the laboratory control limits. No qualifications were required.

**ICP-AES Serial Dilution:**

1. ICP serial dilution was performed on sample MW-16S-101117 (R1709775-010). All results that are sufficiently high (concentration in the original sample is >50x the Method Detection Limits (MDL)), the serial dilution analysis (a 5x dilution) were within the acceptable limit (%D=  $\pm 10\%$ ). No qualifications were required.

**Compound Quantitation and Reported Detection Limits:**

1. All sample results were reported within the linear calibration range.

**Comments:**

1. Validation qualifiers (if required) were entered into the EDD for SDG: R1709775.



NWIRP CALVERTON, NY  
OCTOBER 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1709775

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
MW-07S-101017	R1709775-001	6010C	1	10/10/2017	Lead, Total	5	UG_L	U	5	10
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	Benzene	1	UG_L	UJ	1	5
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	Ethylbenzene	1	UG_L	UJ	1	5
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	Naphthalene	1	UG_L	UJ	1	5
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	Toluene	1	UG_L	UJ	1	5
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	m,p-Xylenes	2	UG_L	UJ	2	5
MW-07S-101017	R1709775-001	8260C	1	10/10/2017	o-Xylene	1	UG_L	UJ	1	5
MW-07S-101017	R1709775-001	8270D	1	10/10/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
MW07I-101217	R1709775-002	6010C	1	10/12/2017	Lead, Total	5	UG_L	U	5	10
MW07I-101217	R1709775-002	8260C	1	10/12/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
MW07I-101217	R1709775-002	8260C	1	10/12/2017	Benzene	1	UG_L	UJ	1	5
MW07I-101217	R1709775-002	8260C	1	10/12/2017	Ethylbenzene	1	UG_L	UJ	1	5
MW07I-101217	R1709775-002	8260C	1	10/12/2017	Naphthalene	1	UG_L	UJ	1	5
MW07I-101217	R1709775-002	8260C	1	10/12/2017	Toluene	1	UG_L	UJ	1	5
MW07I-101217	R1709775-002	8260C	1	10/12/2017	m,p-Xylenes	2	UG_L	UJ	2	5
MW07I-101217	R1709775-002	8260C	1	10/12/2017	o-Xylene	1	UG_L	UJ	1	5
MW07I-101217	R1709775-002	8270D	1	10/12/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
MW-08S 101017	R1709775-003	6010C	1	10/10/2017	Lead, Total	5	UG_L	U	5	10
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	Benzene	1	UG_L	UJ	1	5
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	Ethylbenzene	1	UG_L	UJ	1	5
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	Naphthalene	1	UG_L	UJ	1	5
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	Toluene	1	UG_L	UJ	1	5
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	m,p-Xylenes	2	UG_L	UJ	2	5
MW-08S 101017	R1709775-003	8260C	1	10/10/2017	o-Xylene	1	UG_L	UJ	1	5
MW-08S 101017	R1709775-003	8270D	1	10/10/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
MW-09S 101017	R1709775-004	6010C	1	10/10/2017	Lead, Total	5	UG_L	U	5	10
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	Benzene	1	UG_L	UJ	1	5
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	Ethylbenzene	1	UG_L	UJ	1	5
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	Naphthalene	1	UG_L	UJ	1	5
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	Toluene	1	UG_L	UJ	1	5



NWIRP CALVERTON, NY  
OCTOBER 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1709775

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	m,p-Xylenes	2	UG_L	UJ	2	5
MW-09S 101017	R1709775-004	8260C	1	10/10/2017	o-Xylene	1	UG_L	UJ	1	5
MW-09S 101017	R1709775-004	8270D	1	10/10/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
SV-2 101017	R1709775-005	6010C	1	10/10/2017	Lead, Total	5	UG_L	U	5	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	2	UG_L	UJ	2	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	Benzene	2	UG_L	UJ	2	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	Ethylbenzene	120	UG_L	J	2	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	Naphthalene	33	UG_L	J	2	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	Toluene	2	UG_L	UJ	2	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	m,p-Xylenes	750	UG_L	J	4	10
SV-2 101017	R1709775-005	8260C	2	10/10/2017	o-Xylene	35	UG_L	J	2	10
SV-2 101017	R1709775-005	8270D	1	10/10/2017	2-Methylnaphthalene	21	UG_L	J	5	9.4
SV-4 101117	R1709775-006	6010C	1	10/11/2017	Lead, Total	5	UG_L	U	5	10
SV-4 101117	R1709775-006	8260C	1	10/11/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.1	UG_L	J	1	5
SV-4 101117	R1709775-006	8260C	1	10/11/2017	Benzene	1	UG_L	UJ	1	5
SV-4 101117	R1709775-006	8260C	1	10/11/2017	Ethylbenzene	7.6	UG_L	J	1	5
SV-4 101117	R1709775-006	8260C	1	10/11/2017	Naphthalene	16	UG_L	J	1	5
SV-4 101117	R1709775-006	8260C	1	10/11/2017	Toluene	1	UG_L	UJ	1	5
SV-4 101117	R1709775-006	8260C	1	10/11/2017	m,p-Xylenes	62	UG_L	J	2	5
SV-4 101117	R1709775-006	8260C	1	10/11/2017	o-Xylene	14	UG_L	J	1	5
SV-4 101117	R1709775-006	8270D	1	10/11/2017	2-Methylnaphthalene	9.7	UG_L	J	5	9.4
SV-11 101117	R1709775-007	6010C	1	10/11/2017	Lead, Total	5	UG_L	U	5	10
SV-11 101117	R1709775-007	8260C	1	10/11/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.6	UG_L	J	1	5
SV-11 101117	R1709775-007	8260C	1	10/11/2017	Benzene	1	UG_L	UJ	1	5
SV-11 101117	R1709775-007	8260C	1	10/11/2017	Ethylbenzene	1	UG_L	UJ	1	5
SV-11 101117	R1709775-007	8260C	1	10/11/2017	Naphthalene	2.7	UG_L	J	1	5
SV-11 101117	R1709775-007	8260C	1	10/11/2017	Toluene	1	UG_L	UJ	1	5
SV-11 101117	R1709775-007	8260C	1	10/11/2017	m,p-Xylenes	0.67	UG_L	J	2	5
SV-11 101117	R1709775-007	8260C	1	10/11/2017	o-Xylene	1.1	UG_L	J	1	5
SV-11 101117	R1709775-007	8270D	1	10/11/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
SV-13 101117	R1709775-008	6010C	1	10/11/2017	Lead, Total	5	UG_L	U	5	10
SV-13 101117	R1709775-008	8260C	1	10/11/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
SV-13 101117	R1709775-008	8260C	1	10/11/2017	Benzene	1	UG_L	UJ	1	5



NWIRP CALVERTON, NY  
OCTOBER 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1709775

Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
SV-13 101117	R1709775-008	8260C	1	10/11/2017	Ethylbenzene	12	UG_L	J	1	5
SV-13 101117	R1709775-008	8260C	1	10/11/2017	Naphthalene	15	UG_L	J	1	5
SV-13 101117	R1709775-008	8260C	1	10/11/2017	Toluene	1	UG_L	UJ	1	5
SV-13 101117	R1709775-008	8260C	1	10/11/2017	m,p-Xylenes	26	UG_L	J	2	5
SV-13 101117	R1709775-008	8260C	1	10/11/2017	o-Xylene	30	UG_L	J	1	5
SV-13 101117	R1709775-008	8270D	1	10/11/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
SV-15 101117	R1709775-009	6010C	1	10/11/2017	Lead, Total	5	UG_L	U	5	10
SV-15 101117	R1709775-009	8260C	1	10/11/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.6	UG_L	J	1	5
SV-15 101117	R1709775-009	8260C	1	10/11/2017	Benzene	1	UG_L	UJ	1	5
SV-15 101117	R1709775-009	8260C	1	10/11/2017	Ethylbenzene	1	UG_L	UJ	1	5
SV-15 101117	R1709775-009	8260C	1	10/11/2017	Naphthalene	0.67	UG_L	J	1	5
SV-15 101117	R1709775-009	8260C	1	10/11/2017	Toluene	1	UG_L	UJ	1	5
SV-15 101117	R1709775-009	8260C	1	10/11/2017	m,p-Xylenes	2	UG_L	UJ	2	5
SV-15 101117	R1709775-009	8260C	1	10/11/2017	o-Xylene	1	UG_L	UJ	1	5
SV-15 101117	R1709775-009	8270D	1	10/11/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
MW-16S 101117	R1709775-010	6010C	1	10/11/2017	Lead, Total	5	UG_L	U	5	10
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	Benzene	1	UG_L	UJ	1	5
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	Ethylbenzene	15	UG_L	J	1	5
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	Naphthalene	9	UG_L	J	1	5
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	Toluene	1	UG_L	UJ	1	5
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	m,p-Xylenes	8.8	UG_L	J	2	5
MW-16S 101117	R1709775-010	8260C	1	10/11/2017	o-Xylene	0.38	UG_L	J	1	5
MW-16S 101117	R1709775-010	8270D	1	10/11/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
MW-17S 101017	R1709775-011	6010C	1	10/10/2017	Lead, Total	3.6	UG_L	J	5	10
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	Benzene	1	UG_L	UJ	1	5
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	Ethylbenzene	77	UG_L	J	1	5
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	Naphthalene	30	UG_L	J	1	5
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	Toluene	1	UG_L	UJ	1	5
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	m,p-Xylenes	210	UG_L	J	2	5
MW-17S 101017	R1709775-011	8260C	1	10/10/2017	o-Xylene	1.4	UG_L	J	1	5
MW-17S 101017	R1709775-011	8270D	1	10/10/2017	2-Methylnaphthalene	5.1	UG_L	J	5	9.4

NWIRP CALVERTON, NY  
OCTOBER 2017  
DATA SUMMARY TABLE  
AQUEOUS  
SDG: R1709775

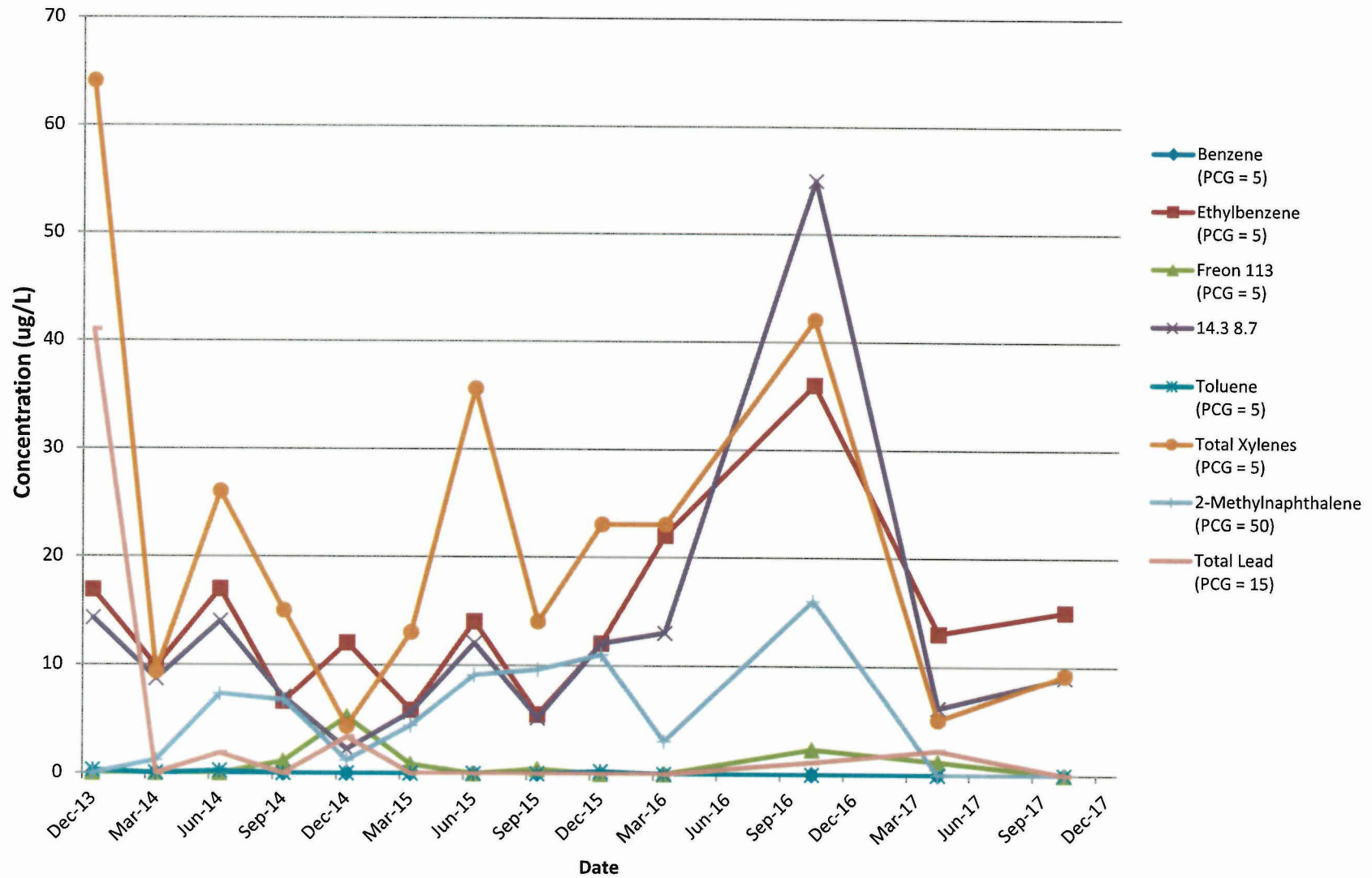
Sample Name	Lab ID	METHOD	Dilution	Sample Date	Analyte	Result	Unit	Qualifier	LOD	LOQ
DUP-1 101117	R1709775-012	6010C	1	10/11/2017	Lead, Total	5	UG_L	U	5	10
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	Benzene	1	UG_L	UJ	1	5
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	Ethylbenzene	17	UG_L	J	1	5
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	Naphthalene	10	UG_L	J	1	5
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	Toluene	1	UG_L	UJ	1	5
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	m,p-Xylenes	10	UG_L	J	2	5
DUP-1 101117	R1709775-012	8260C	1	10/11/2017	o-Xylene	0.68	UG_L	J	1	5
DUP-1 101117	R1709775-012	8270D	1	10/11/2017	2-Methylnaphthalene	3.2	UG_L	J	5	9.4
FB-1 101217	R1709775-013	6010C	1	10/12/2017	Lead, Total	5	UG_L	U	5	10
FB-1 101217	R1709775-013	8260C	1	10/12/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
FB-1 101217	R1709775-013	8260C	1	10/12/2017	Benzene	1	UG_L	UJ	1	5
FB-1 101217	R1709775-013	8260C	1	10/12/2017	Ethylbenzene	1	UG_L	UJ	1	5
FB-1 101217	R1709775-013	8260C	1	10/12/2017	Naphthalene	1	UG_L	UJ	1	5
FB-1 101217	R1709775-013	8260C	1	10/12/2017	Toluene	0.3	UG_L	J	1	5
FB-1 101217	R1709775-013	8260C	1	10/12/2017	m,p-Xylenes	2	UG_L	UJ	2	5
FB-1 101217	R1709775-013	8260C	1	10/12/2017	o-Xylene	1	UG_L	UJ	1	5
FB-1 101217	R1709775-013	8270D	1	10/12/2017	2-Methylnaphthalene	5	UG_L	UJ	5	9.4
TB-1 101217	R1709775-014	8260C	1	10/12/2017	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	UG_L	UJ	1	5
TB-1 101217	R1709775-014	8260C	1	10/12/2017	Benzene	1	UG_L	UJ	1	5
TB-1 101217	R1709775-014	8260C	1	10/12/2017	Ethylbenzene	1	UG_L	UJ	1	5
TB-1 101217	R1709775-014	8260C	1	10/12/2017	Naphthalene	1	UG_L	UJ	1	5
TB-1 101217	R1709775-014	8260C	1	10/12/2017	Toluene	1	UG_L	UJ	1	5
TB-1 101217	R1709775-014	8260C	1	10/12/2017	m,p-Xylenes	2	UG_L	UJ	2	5
TB-1 101217	R1709775-014	8260C	1	10/12/2017	o-Xylene	1	UG_L	UJ	1	5

## **APPENDIX C**

### **GROUNDWATER CONCENTRATION TRENDS (DECEMBER 2013 – OCTOBER 2017)**

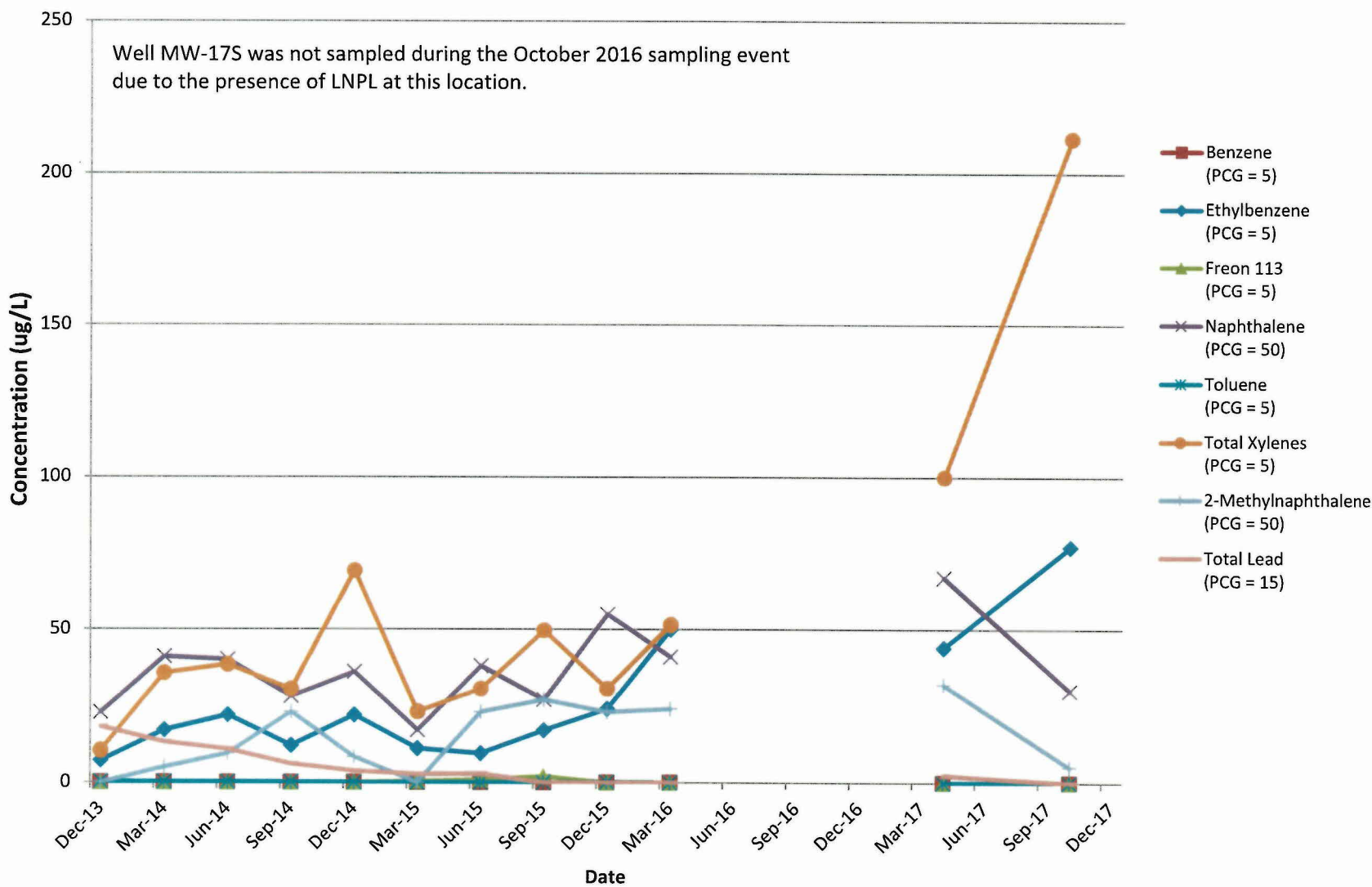


## Contaminant Concentration Trends MW-16S

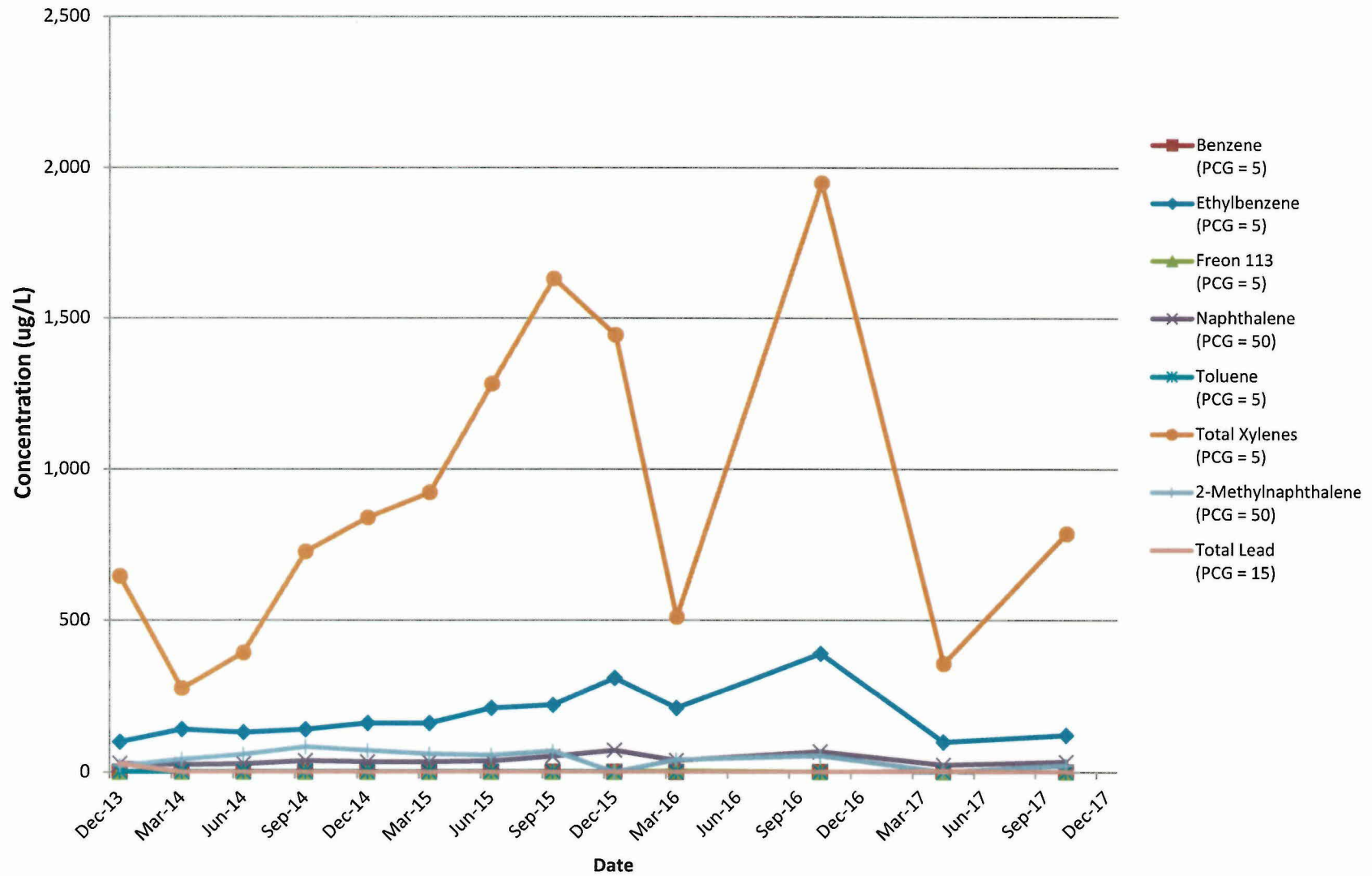




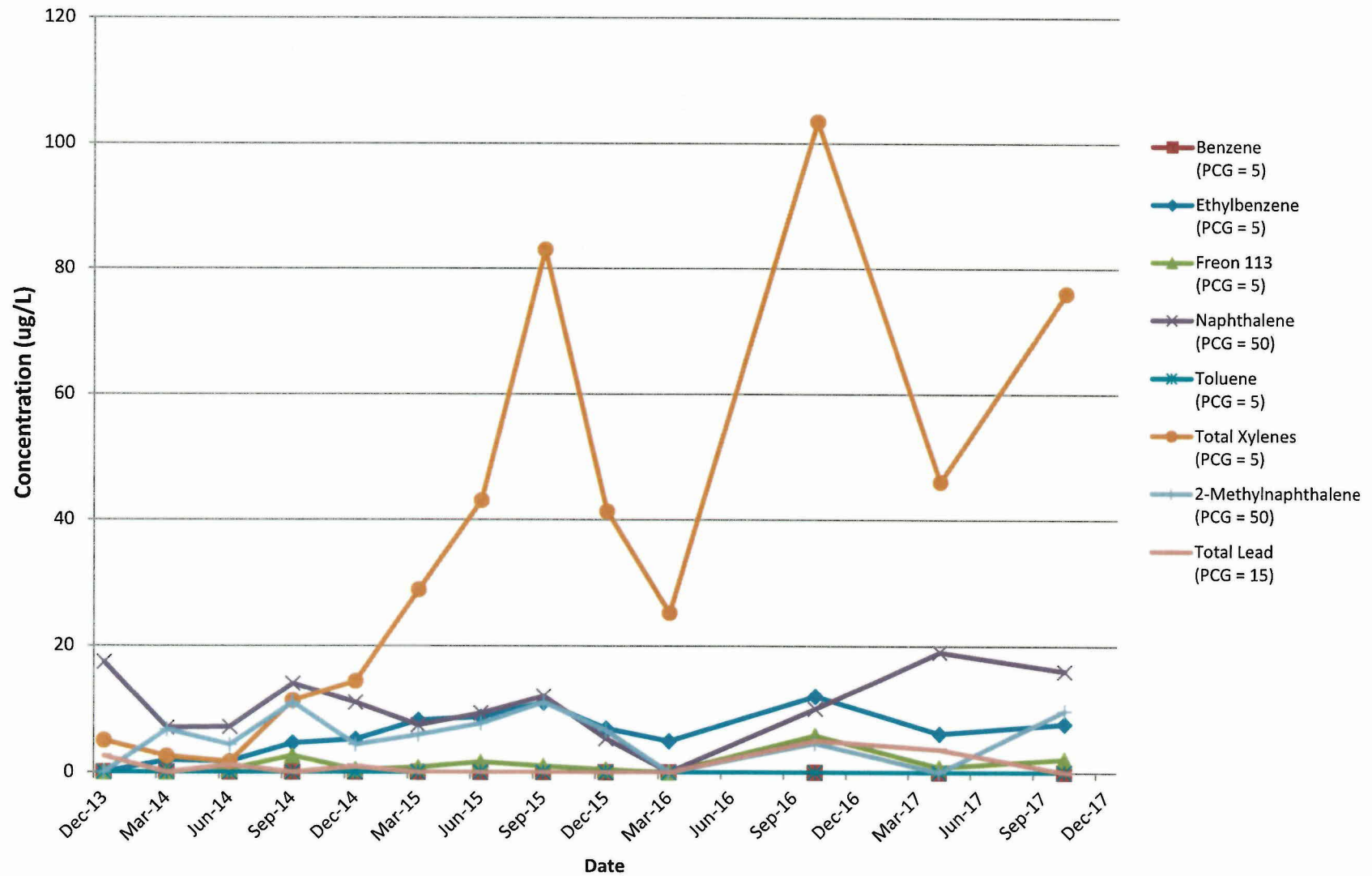
## MW-17S



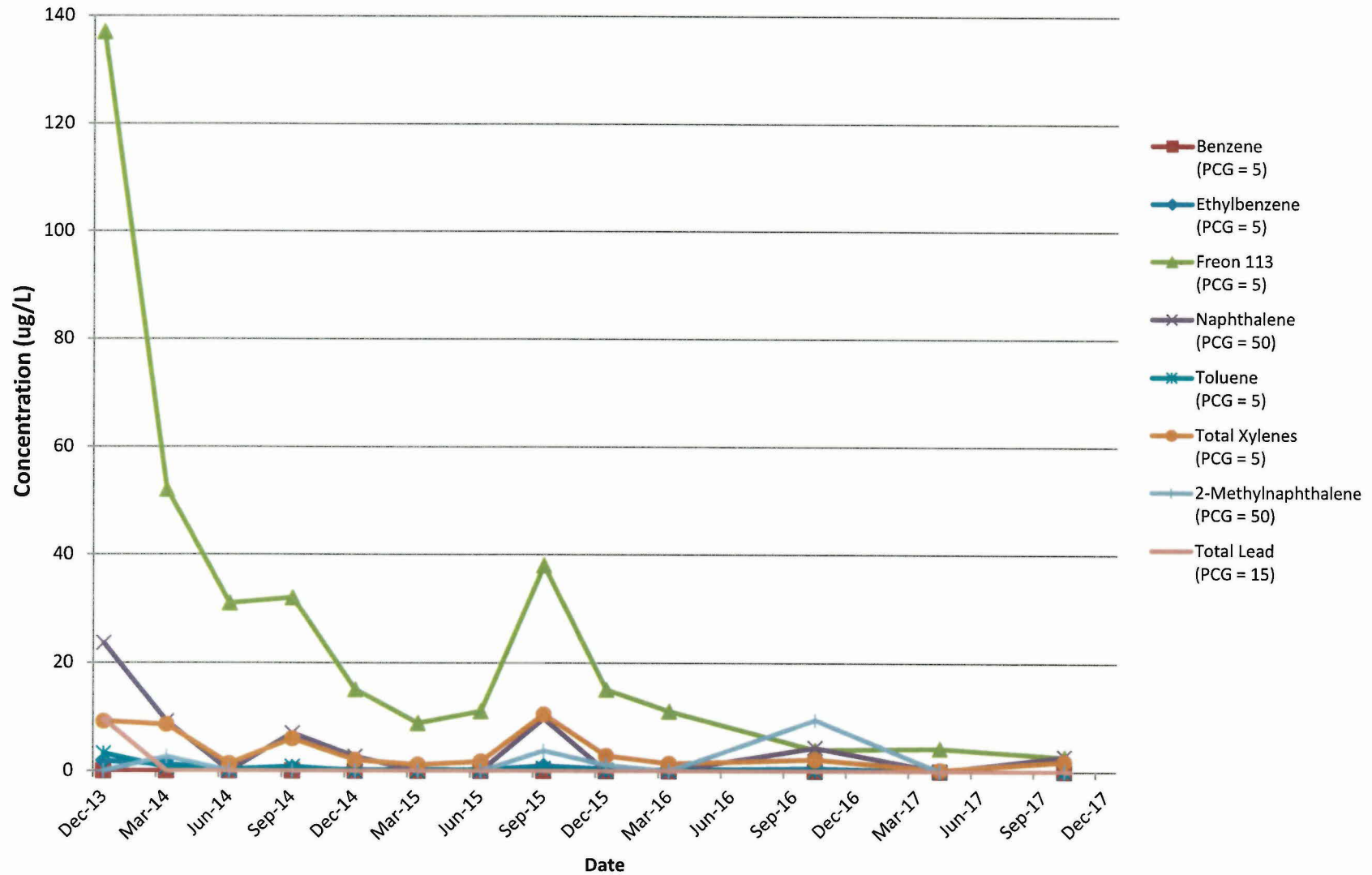
## Contaminant Concentration Trends SV-2



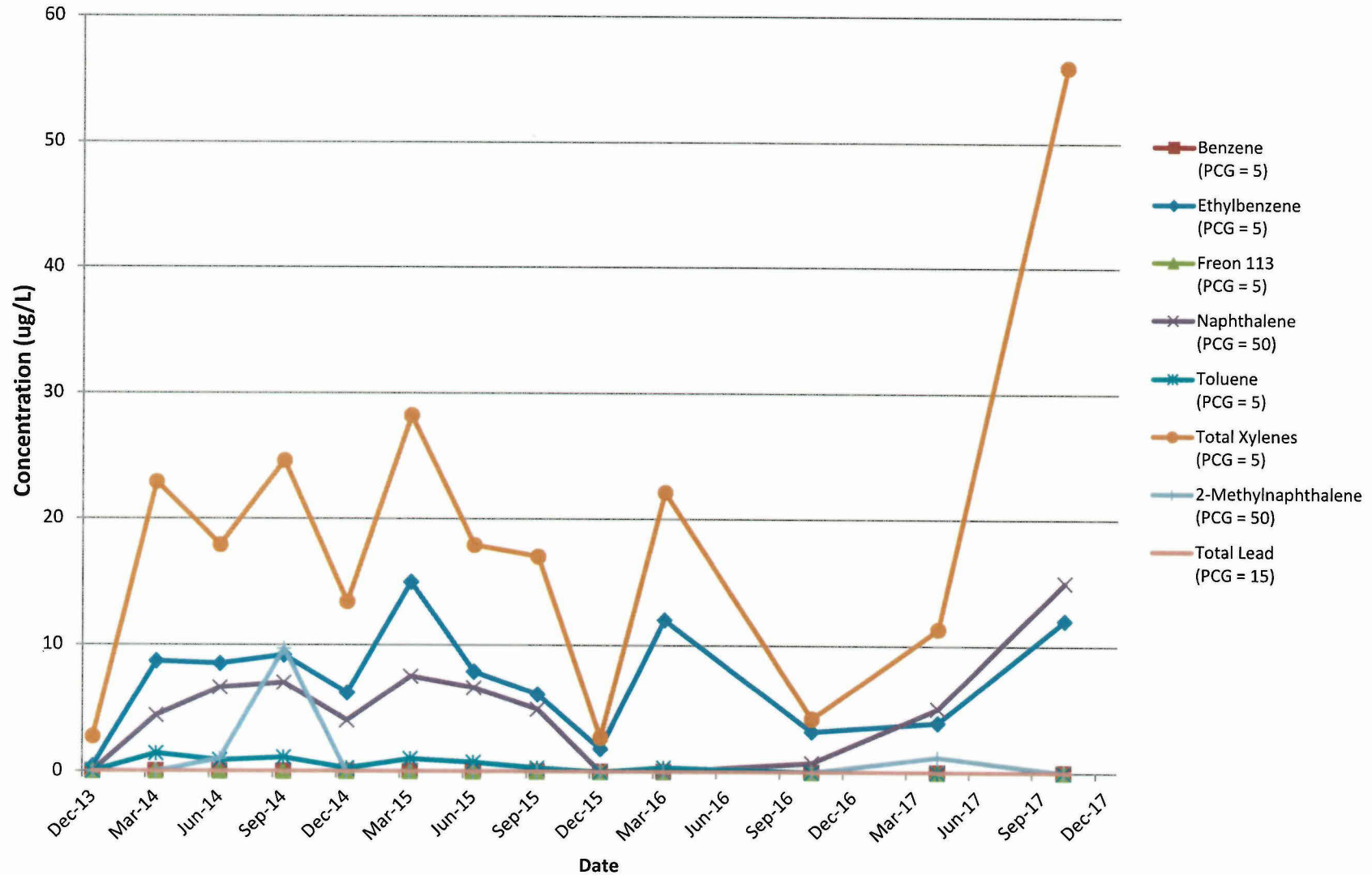
## Contaminant Concentration Trends SV-4



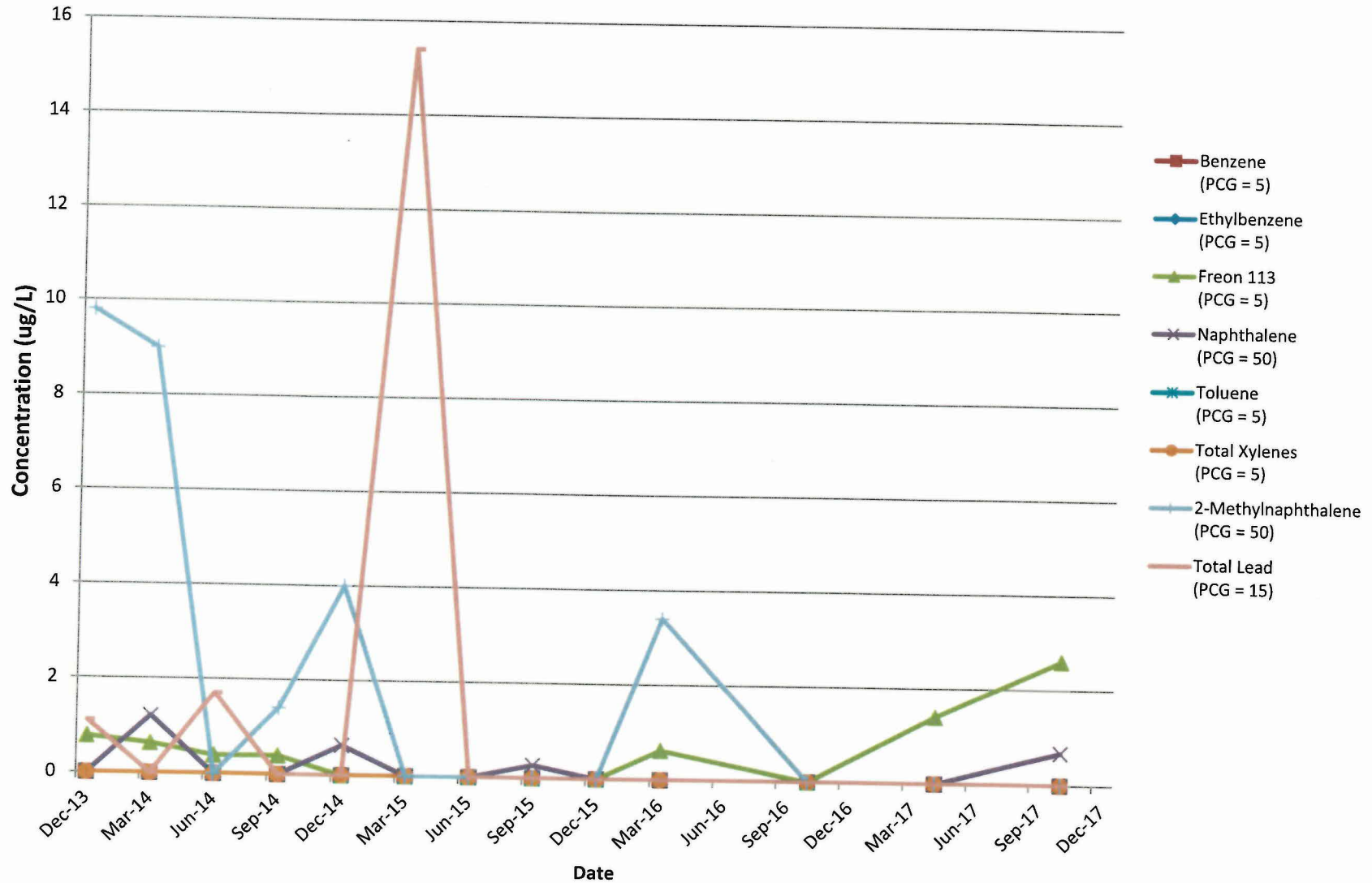
## Contaminant Concentration Trends SV-11



## Contaminant Concentration Trends SV-13

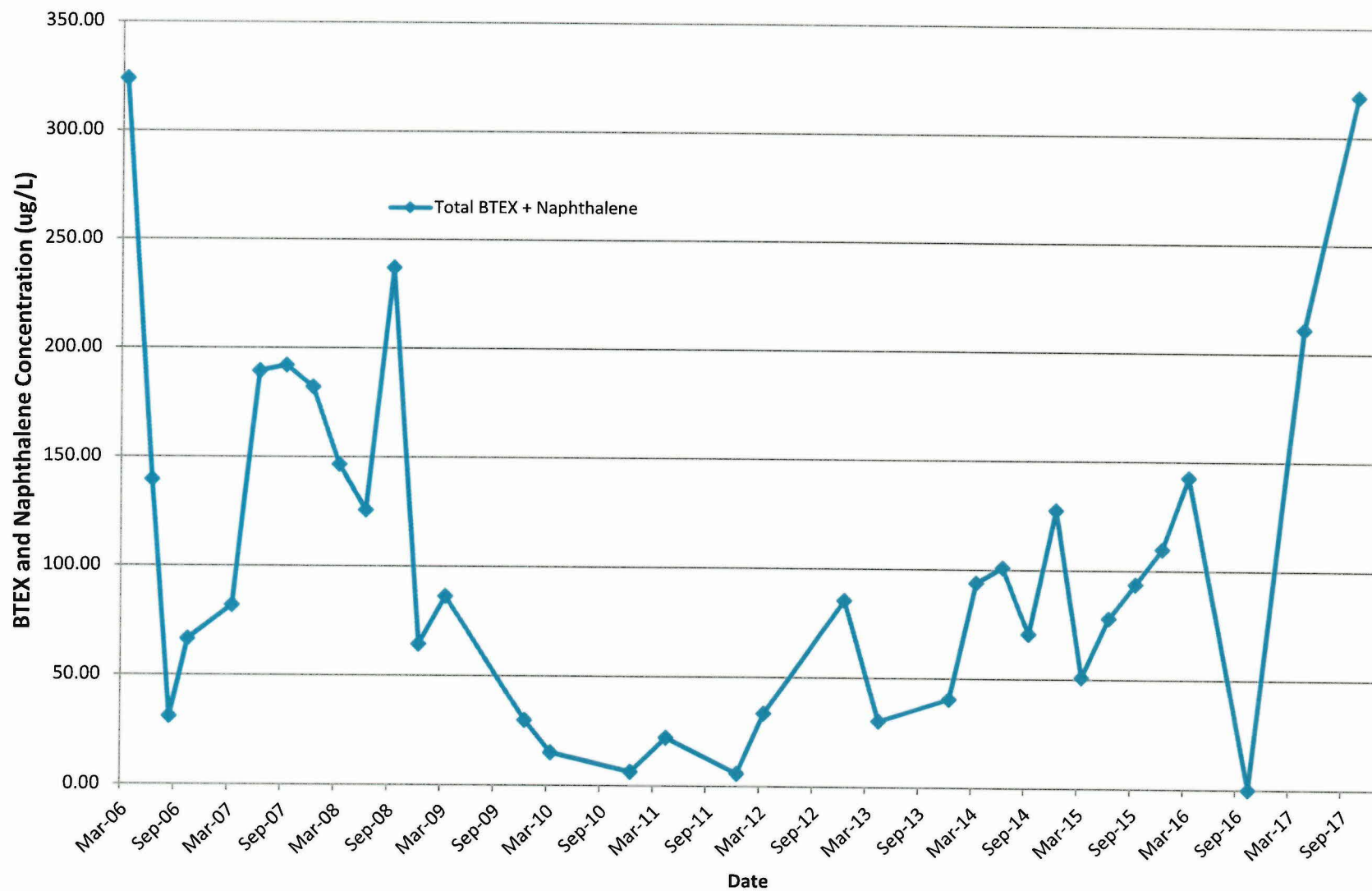


## Contaminant Concentration Trends SV-15

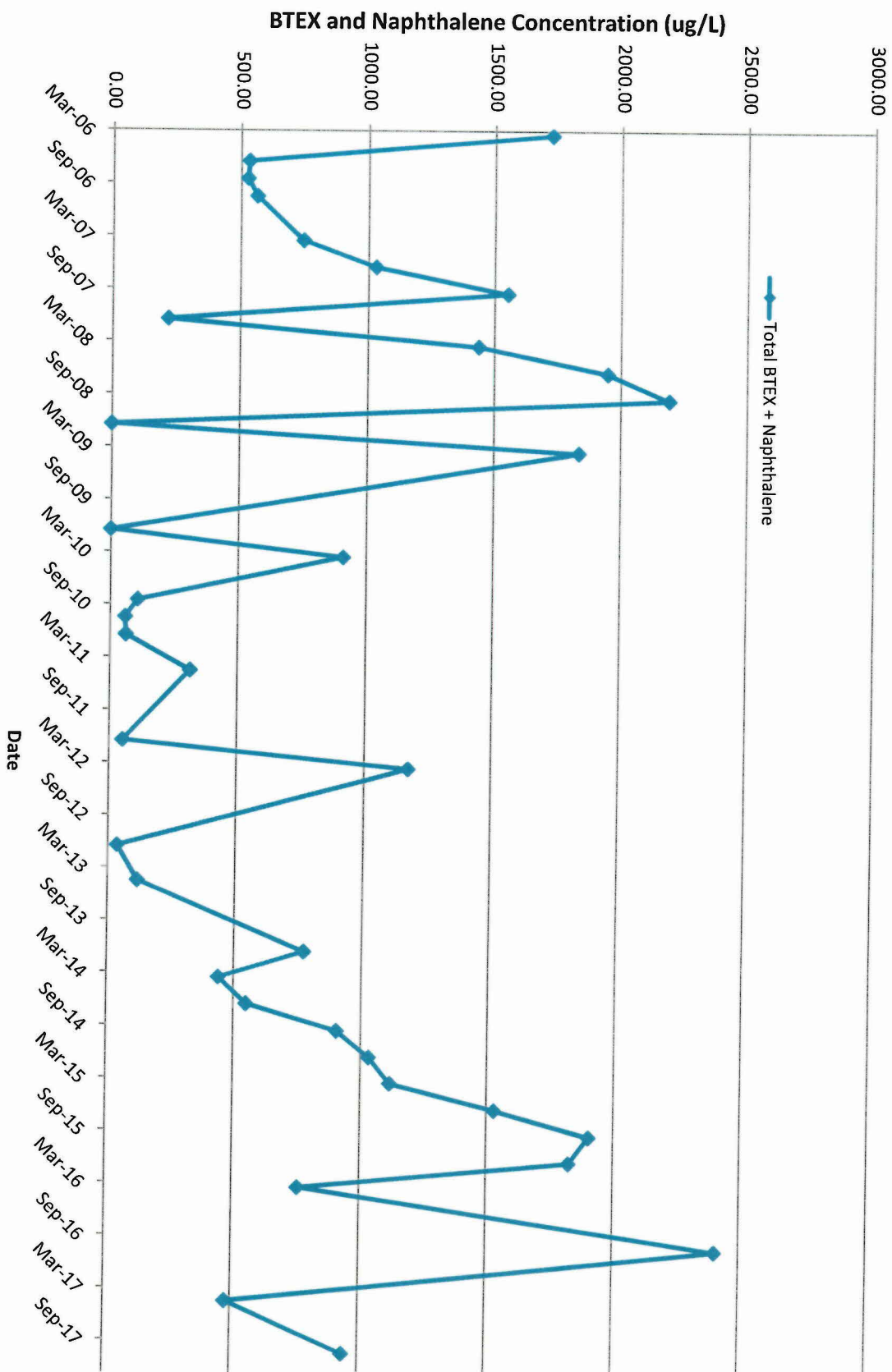




## Historic BTEX and Naphthalene Concentration MW-17S

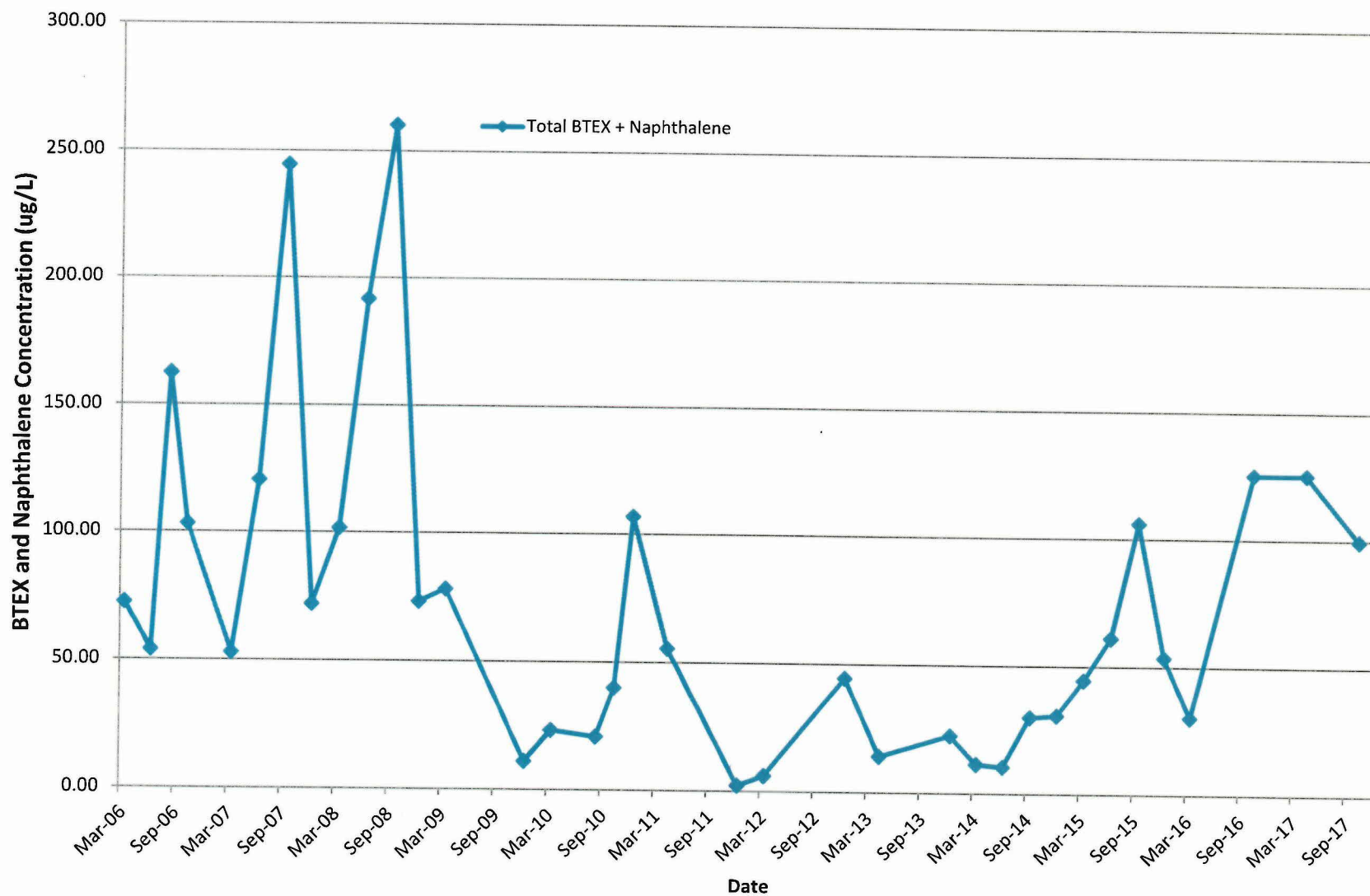


# Historic BTEX and Naphthalene Concentration SV-2

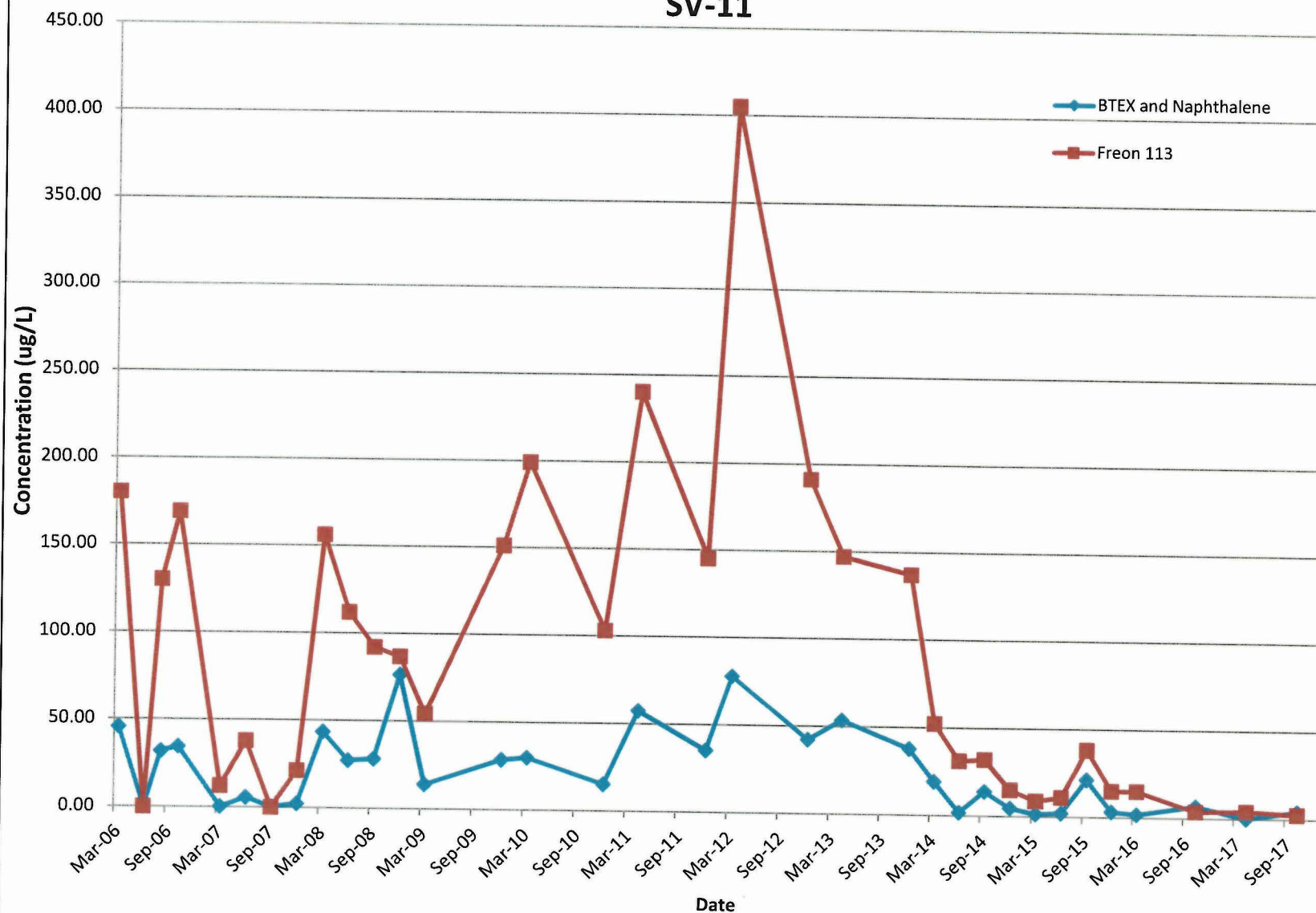




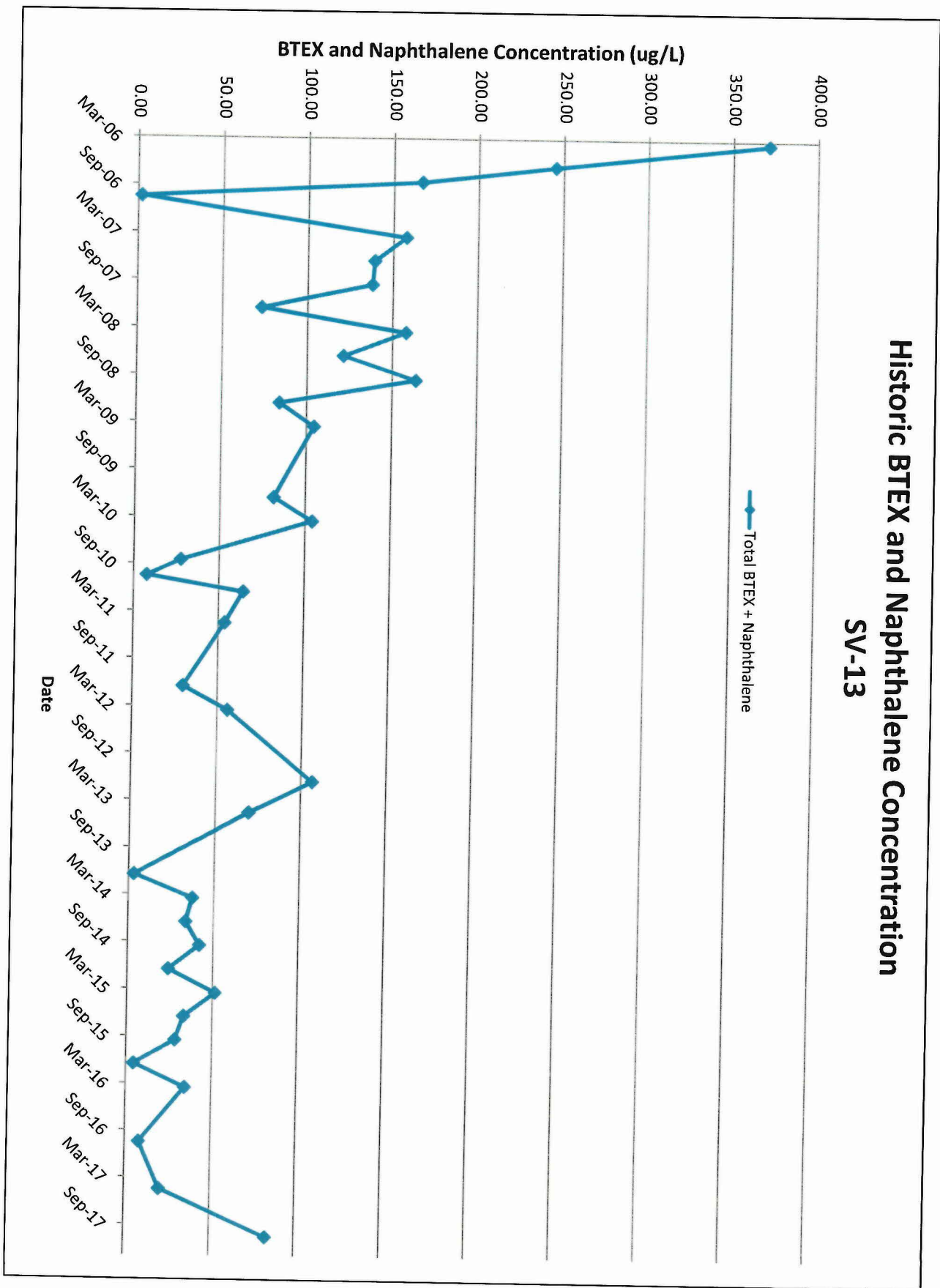
## Historic BTEX and Naphthalene Concentration SV-4



## Historic BTEX, Naphthalene, and Freon 113® Concentration SV-11



# Historic BTEX and Naphthalene Concentration SV-13



## Historic BTEX and Naphthalene Concentration SV-15

